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ORIGINAL ARTICLES.

THE ABSORPTION OF UNCOMPLICATED IN-NATURE CATARACT BY CONJOINED MANIPULATION AND INSTILLATION.¹

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NINE years ago my first paper on this subject was read at a meeting of the Section on Ophthalmology of the New York Academy of Medicine, and a few months later my second paper was presented at the annual meeting of the County Medical Society. These papers were hurriedly prepared to forestall the publication, in a religious weekly, of a description of this new method of treating cataract. The presentation of these papers, and their almost immediate publication in the *Medical Record* put a quietus on the mistaken zeal of these patients and the announcement to the profession was thus made through the regular channel of communication. Although this announcement was so prematurely made, the widespread interest it aroused and the active investigation it provoked demonstrated how great was the need of some method of treatment that would arrest the progress of immature cataract. Since that preliminary report was made a sufficient period has elapsed to practically demonstrate the permanency of the results obtained from the treatment then advocated, and to determine the varieties of immature cataract that will respond favorably to the treatment.

Certain important considerations must be referred to and explained in order that the scope of this report be clearly understood. As uncomplicated cataract I define all cases unaccompanied by systemic or local disease, and as illustrative types of the former I would instance, diabetes, nephritis, etc., while as local pathologic change I would mention keratitis, retinitis, etc.; but as to whether arthritis—rheumatic or gouty—be a complication, I am not prepared to state and must leave this matter for the present, *sub judice*. An error of refraction is an accompaniment, not a complication.

The extraction or absorption of cataract has a single object in view: the restoration of vision to as great a degree of usefulness as it is possible to obtain. Therefore, in mature cataract, if light projection be

faulty an operation is advised only in cases of complete blindness, when even an imperfect result will give a more serviceable eye than would the retention of the opaque lens with its accompanying blindness. So in the absorption of cataract, the treatment is never undertaken except there be an absence of concomitant local or constitutional troubles. The reason is obvious; as good and useful sight could not be obtained. This is established by the following observations:

CASE I.—The patient was referred to me from a neighboring city, with a history of commencing cataract treated by his physician for more than a month by my method. The lens opacities had cleared markedly, but only a slight improvement in vision had been obtained. Ophthalmoscopic examination revealed an extensive albuminuric retinitis, with consecutive atrophic condition of the optic nerves. The diagnosis of nephritis was corroborated by a general examination. Uremic symptoms followed and death, in uremic coma, supervened about two and one-half years after my first examination. Three months before his death ophthalmoscopic examination of the lens failed to disclose any advance of the cataractous process.

CASE II.—This occurred in a very robust and muscular man, aged fifty-four years. There was a general haziness of both lenses, with denser streaks running from the edge to almost the center of the lens. It was impossible to obtain a view of the deeper structures; but after a treatment lasting about six weeks the haziness had diminished enough to allow me to diagnosticate pigmentary retinitis, and the patient then admitted that he had experienced the usual symptoms of this disease. Five years after the treatment there was no advance in the process of opacification.

CASE III.—Patient about sixty-five years of age. Lenses hazy, and a clear picture of the fundus could not be obtained. After about six-week's treatment it was possible to make a diagnosis of glaucoma simplex. The lenses have remained clear since treatment was given, more than three years ago.

We must thus conclude that the restoration of useful sight being the paramount desideratum, any complication which, independent of the lenticular opacity, diminishes visual power, contraindicates any form of treatment.

The popular conception of cataract held by the profession, and universally by the laity, is that it is a disease of old age, a deviation from mature vigor, and that it necessarily accompanies gray hair, tooth-

¹ Third paper. Read at a meeting of the Northwestern Medical and Surgical Society of New York, January 18, 1899.

lessness, and a tottering gait. This I unhesitatingly deny. It is well known that with advancing age the lens hardens and from a state of transparency may become almost amber-colored; but only in a very small percentage of cases does a degree of opacity ensue that is sufficient to produce enfeeblement of vision. It is likewise an undisputable fact that in many persons advanced in life, with positive evidences of general senility, we find the transparency of the lens absolutely unimpaired. In a small number of cases senility probably does play its part, and such patients should receive the same local and constitutional treatment that is given to subjects of other senile diseases. In the majority of cases of immature cataract, even in those in which advanced life may be an accompaniment, the absence of a single feature of senility, and the presence of rugged health and great physical and mental endurance plainly demonstrate the palpable error of regarding the occurrence of lenticular opacities as evidence of senile change; and holding to this opinion I have omitted the word senile and refer to my cases as uncomplicated immature cataract.

Two great factors enter into the production of incipient and immature cataract, namely, interference with the nourishment of the lens, and eye strain, acting independently or in combination. The lens is avascular and receives its nourishment by imbibition; hence, anything which interferes with the supply of blood to the choroid interferes proportionately with the acquisition of a supply of restorative material to the lens. In my paper above referred to I noted that in the great majority of my cases of cataract increased tension was observed, and this observation has been confirmed by the larger number of cases seen since that paper was written. Increased tension means increased intra-ocular pressure, which even in a slight degree must seriously interfere not only with the blood circulation, but with the liquid secretions as well. The veins being less resiliant than the arteries would naturally be more easily compressed, and would be unable to empty the eye of its venous blood, thus damming back the arterial blood and decreasing the ingress of the arterial supply, that is, of the nourishment-bearing stream, which would thereby cause a serious interference with the nutrition of the ocular tissues. Consequent upon this retardation and diminution of the arterial supply the absorbent system suffers a marked functional inhibition, hence those structures dependent upon inhibition for papulum would from force of circumstances be the first to suffer physical deterioration.

To the ill effects caused by a lessened supply of nourishing stream we must add another element in the abnormal constituents of the liquids which en-

compass the lens as shown in the following: In the paper above referred to I traced a connection between immature cataract and dyspepsia, which relation I desire to strongly emphasize. The term dyspepsia I employ in a generic sense, implying thereby not only imperfect digestion, but also the protean manifestations of incomplete digestion, decomposition, and degeneration of food, gastric or intestinal, or both. The ingestion of food is primarily for the purpose of renewing the tissues consumed in performing their functions. When, however, through defective metabolism this papulum is improperly prepared and noxious substances instead of nutrient material are elaborated, the whole general system suffers from a lack of restorative supply to replace the worn-out tissues, and it also suffers from a deposit in the tissues of excrementitious principles which if absorbed may cause auto-infection. Faulty metabolism is justly regarded—except by the minority which discovers micro-organisms as a causative factor in the production of every disease—as the chief determining cause of rheumatic and gouty arthritis, and since these products of disassimilation attack the avascular structures of the articulations it is certain that other structures similarly devoid of vascular supply, as is the crystalline lens, would likewise suffer an interference in constructive metamorphosis, and a corresponding interference in function. Imperfect metabolism must necessarily produce an abnormal nutritive fluid, and it is incontrovertible that if the lens be continuously immersed in a liquid which lacks elements necessary for the regeneration of its crippled cells, and contains agents likely to poison its healthy ones, its structure must undergo degenerative change, the first step of which undoubtedly is opacification.

That eye strain plays a most important rôle in the causation of cataract is generally admitted. The marked enervation so universally recognized as its accompaniment is direct evidence of its power to interfere with constructive metamorphosis, the consequence being that waste and repair become disproportional and deterioration of structure occurs.

Subsequent to the publication of my articles above referred to, a new theory was deduced to account for the improvement in vision in cataractous eyes. The marvelous discovery was made that cataracts following a "natural" course remain stationary, more or less, and acuity of vision is increased. This was surprising; and as my observation of the progress of cataract had influenced me to adopt views diametrically opposed to this new theory, I subjected my records of cases of cataract seen prior to 1890 to a critical analysis, the result of which is here appended. The whole number of eyes seen was 35,

occurring in 21 patients. In 20 eyes the cataracts matured and the lenses were extracted. The shortest period between the first examination and the operation was about 18 months, and the longest period about 7 years. Fifteen eyes which did not mature thus remain, and 13 of these patients paid the last debt to Nature at periods varying from three months to five years following the examination. Ten of these showed decided advancement of the lenticular opacity, and a corresponding reduction in vision for distant as well as for near objects, and would undoubtedly have required operation later, had not intercurrent maladies carried them away. The remaining 3 passed away within less than a year after examination and conclusions are unjustifiable. There thus remain for final consideration two subjects, one of whom had been under observation for seven years before coming to me and remained under my observation for six years when an attack of pneumonia finished her earthly career. In the other case there was a general haziness of the lens, but good sight was retained up to the end, about seven years after I first saw the patient. The ophthalmoscopic picture in these two cases seemed from time to time to vary little if at all, but in neither case was there recession.

Analysis of these figures reveals that out of thirty-two eyes—the three patients that died so soon after examination must be eliminated—only two showed no signs of progression. With this personal experience as a guide, and personal experience is the only safe one, I dare not, to suit any fantastic whim, adopt as my motto, "*Ex duobus discere omnes.*"

In the further discussion of this peculiar and erroneous notion one is led to ask if due care were exercised in making the examinations of the patients who improved so "naturally." That nine were cases of cataract is beyond question, since they advanced to maturity, and ripened cataractic lenses were extracted. It is not unusual for patients to consult me having a "ready-made" diagnosis of cataract. This diagnosis is rarely made by a physician, but by some officious friend who instances identical cases in common friends. Eight such patients presented themselves during the past year; three had chronic conjunctivitis, two had corneal ulcerations, one had corneal opacity, and two had acute iritis. According to its discoverers, the "natural" course of cataract, eventuates in an improvement of vision and an arrest of opacification of the lens. It then follows *a priori*, that cataracts will not ripen nor will operative interference be required. Just here a troublesome question obturates its ugly personality: If Nature prevents, even in a moderate degree, the maturity of cataracts, where do

all the ripe cataracts come from? In three public hospitals of this city during the past year 494 cataracts were extracted, requiring 633 operations. This number is independent of that larger number operated upon in other institutions in this and in other surgical centers, as well as of those treated in private hospitals and at patients' homes, the whole number of which will assuredly reach into the thousands every year. Since it cannot be controverted that this is the outcome of the "natural" course of cataract, no one will deny that oculists must do something to interfere with Nature, and that something must be done right speedily.

My contribution to that something is the presentation of this my third paper on the absorption of immature cataract by conjoined manipulation and instillation. Reference will be made chiefly to the patients treated prior to January, 1894. Seventy-six patients (one hundred and thirty eyes) were treated between January, 1889, and January, 1894. Seven of these patients (thirteen eyes) passed away at dates varying from two to seven years subsequent to the treatment, all to the end having retained the benefit received. Two cataracts that matured were successfully removed by surgical aid. Advanced immature cataract in six eyes did not respond, the process being held in abeyance for a time; but later they ripened and extraction was performed. One case of advanced immature cataract in a patient with rheumatic arthritis was checked for a time, but afterward passed on to maturity and the lenses were extracted.

In making an estimate of the successful cases we must add to the number of patients living those who retained the benefit of the treatment up to the time of their death, and we thus have sixty-nine successful results with one hundred and eighteen eyes. To present the result of refraction examination of each one of these one hundred and eighteen eyes would require more space than should be devoted thereto, besides offering a mass of figures that would be simply bewildering; therefore, the following tabulation is submitted.

Thus in 12 eyes out of 130 the treatment availed nothing. Of these 12 there are 2 concerning which I have no information, but the remaining 10 were subsequently operated upon successfully. The cases treated from January, 1894, until January, 1898, one year ago, show a higher percentage of success, but statistics are not given, as the only question at issue is that relating to the permanency of the result obtained and this requires time for its demonstration. I am fully convinced by personal experience that the treatment of immature cataract by conjoined manipulation and instillation will pro-

duce a permanent and successful result, despite interested or farcical criticism to the contrary, but that it will modify every case I am not sanguine enough to expect until all humanity is cast from a single mold. It can be declared without fear of contradiction that while some are tall in stature and some short, some adipose in build and some spare, some fair in complexion and some dark, no single

sorbed; the nucleus either falls to the bottom of the capsule, or, as recorded by competent observers, in a few cases it is also absorbed. The histories of fifty cases have been collected by Nathanson and reported in *Zehender's Monatsblatt der Augenheilkunde*, 1898. I have under my care a case similar to one there referred to. The patient has been under observation for the past three years, has a myopia in each eye of about sixteen diopters, and two years ago, after exposure of the eyes to the glare of sunlight on a limestone road, a sudden dimness of sight was experienced in the right eye. On return to town, between two and three months later, examination of the eye revealed a large detachment of the retina below. Rest in the recumbent position, eserin, followed later by pilocarpin, instillations, hypodermatic injections of pilocarpin muriate to the production of marked diaphoresis for four weeks resulted in the reattachment of the retina. Six months later a cataract began to develop, and not knowing what effect manipulation might have on a reattached retina I decided not to employ my treatment for immature cataract, but to leave the case to Nature. About ten months later Nature made a complete report, showing a ripe cataract, but light projection was apparently lost over a space corresponding in size to about one-half the area of the previous detachment. Examination in October, 1898, left it questionable if any blind space existed, and the color of the opaque lens was less conspicuously white. In January, 1899, light projection in the four quadrants was good, and when the light from a concave mirror was passed in the line of a circle there was instantaneous recognition when the line was broken. There was also distinct ability to distinguish the presence or absence of large objects in places foreign to their usual position.

It is pertinent to the subject of this paper that a comparison be instituted between the result obtained in the so-called spontaneous absorption of mature cataract and that following absorption of immature cataract. In the first named there is a complete absorption of cortical matter and often the nucleus as well and when this occurs we have all the benefit of an extraction with none of its dangers; but the patient requires the usual high-power convex glass for general use, and a still more convex glass for reading. When, however, the nucleus is not absorbed, and descends in the capsule so that it partly occludes the pupil, it must be removed by extraction, but the operation is then more dangerous and often less satisfactory. In the absorption of immature cataract by my method the opaque fibers are changed to transparent ones, the entire lens (probably) remains; the large majority of these patients use the same

Number of Eyes.	Sight at First Examina'tn	Corrected Sight at First Examination.	Sight After Treatment	Corrected Sight After Treatment.
26	less than $\frac{2}{0}$ $\frac{2}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0}$ $\frac{2}{0} 0 - \frac{2}{0}$	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$ (2 cases) one case
9	$\frac{2}{0} 0$ $\frac{2}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0}$ $\frac{1}{0} 0 - \frac{2}{0}$	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$
17	$\frac{2}{0} 0$ $\frac{1}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0}$ $\frac{1}{0} 0 - \frac{2}{0}$ one case	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0} 0$ one case
18	$\frac{2}{0}$ $\frac{2}{0}$	$\frac{2}{0} 0 - \frac{2}{0}$ $\frac{2}{0} 0 - \frac{2}{0}$ one case	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$
32	$\frac{2}{0}$ $\frac{2}{0}$	$\frac{2}{0} 0 - \frac{2}{0}$ $\frac{2}{0} 0 - \frac{2}{0}$ five cases	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0} 0$ one case each
26	$\frac{2}{0}$ $\frac{2}{0}$	$\frac{2}{0} 0 - \frac{2}{0}$ $\frac{2}{0} 0 - \frac{2}{0}$	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$	$\frac{2}{0} 0 - \frac{2}{0} 0$ $\frac{2}{0} 0 - \frac{2}{0} 0$

specific for any one disease can possibly be found.

Several other methods of treatment, modifications of my plan, have been suggested and exploited since my papers were published, but I have still to find one that will do for my patients what conjoined manipulation and instillation have done. The instillation of a solution of eserin to reduce intra-ocular tension has been recommended in conjunction with a modification of my plan of manipulation. It is universally admitted by oculists that this remedy has in a number of instances lighted up grave attacks of acute iritis, exceedingly troublesome to manage, and in not a few cases followed by disaster to vision. The employment of such a dangerous remedy is, therefore, likely to prove more uncontrollable than the cataract it is proposed to relieve. The aromatic oils are being recommended as solvents for cataract. I thoroughly tested a number of them in my early investigations. The ones employed were oils of anise, caraway, chamomile, cinnamon, clove, coriander, cubeb, fennel, flagroot, horseradish, and mustard, but I failed to get even the slightest benefit from their use, and abandoned them.

It is necessary that some reference be made to the spontaneous absorption of mature cataract, reports of the occurrence of which appear from time to time in the papers, medical and lay. The term absorption in this connection is a misnomer, for it implies that the cataract is absorbed, the lens again becoming transparent. As a matter of fact, what happens is this: The opaque cortical matter softens, becomes liquid (Morgagnian cataract), and is ab-

glasses after treatment that were used before opacification of the lens occurred, and they invariably declare that the eyes can be used without exertion, they being unaware of any effort.

In passing I would say that in making my examination of vision assiduous care is exercised to eliminate any and every element which might militate against repeated examinations being conducted on identical lines. The atmospheric condition is noted as being bright, sunny, dark, overcast, rainy, snowy, foggy, etc., and the same set of test cards has been used in all cases. These cards are kept in a closet with a glass front, the glass being kept covered with a heavy silk curtain. When not in use the glass door is closed and the cards are in darkness; this preserves the clearness of paper and letters and I am thus testing sight with the identical cards I have employed for the past nine years.

This subject may be thus summarized:

1. Immature cataract is due to local conditions dependent on general systemic causes.
2. Senility is rarely a direct, but may be a predisposing, cause.
3. Fluids containing perverted aliment resulting from defective metabolism supplied to the lens through its nutritive stream may be considered an exciting cause.
4. Deficient blood-supply, thus reducing the quantity furnished, may be considered a contributing cause.

The following conclusions may be drawn:

1. Immature cataract may be regarded as a largely preventable disease.
2. It may, by properly directed treatment, local and constitutional, be prevented, arrested, retarded or cured.
3. The circulation of the blood must be regulated.
4. The faulty digestion must be rectified.
5. Constant supervision of the eye must be maintained by a competent ophthalmologist, that eye strain be relieved, and all changes in refraction be promptly remedied.
6. Treatment by conjoined manipulation and instillation should be instituted at the earliest possible moment.
7. Finally, if local and constitutional treatment should not provoke a favorable issue they will establish a more nearly normal state of the ocular tissues, and if an operation be found necessary, this improved condition of the ocular structures will ensure a larger degree of success.

The accompanying plates (see frontispiece) are submitted as an exhibit of the ophthalmoscopic appearances present in these cases at the dates noted. In making the original drawings, from which the plates

have been copied, rigid precautions were exercised to have the diagrams made under absolutely similar conditions in order that an accurate comparison might be instituted. Several of these diagrams were published in illustrations of cases reported in my second paper, and I cannot, nor do I think that any unbiased observer can agree with the criticism then made that these represent a single or unusual form of cataract. Both the striated and diffuse opacities are indicated, and as these are the varieties which generally are presented the pictures certainly do not represent an "anomalous form of cataract."

This selection of cases was made solely to present a pictorial representation of lenticular opacities before and after treatment, and the ones chosen were those in which there was the longest interval between the first and the latest examination, the object being to demonstrate that progress of the cataract was arrested and the absorption of the opacity was permanent.

THE PRESENT STATUS OF OUR KNOWLEDGE OF CHLOROSIS.¹

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IN responding to the invitation of the President to prepare a paper on chlorosis, which would serve as an introduction to the discussion upon this subject, it has seemed to me to be more profitable to confine myself as far as possible to the consideration of those phases of the subject of which our knowledge has been modified or definitely confirmed by the ever increasing hematological investigations of the past decade. These investigations as I shall endeavor to show have in some instances disturbed our previously accepted divisions of anemia.

The so-called anemias are characterized either by a reduction in the number of red cells circulating in the blood, an oligocytopenia, or by a reduction in the amount of the hemoglobin, designated as oligochromenia. Further, both red cells and hemoglobin may show reductions in varying degree, so that the hemoglobin value of the individual remaining corpuscles, the *valeur globulaire*, may be increased or diminished. These variations characterize certain divisions of anemia. Thus the percentage of hemoglobin in chlorosis is much lower than the percentage of red cells, while in pernicious anemia the percentage of hemoglobin is higher than the percentage of red corpuscles.

However, the plan was long ago adopted of dividing the anemias clinically according to the ab-

¹ Read at a stated meeting of the New York Academy of Medicine, May 4, 1899. For discussion see page 507.

sence or presence of a known and sufficient cause, in other words into primary and secondary anemias. In the present state of our knowledge we still adhere to this method, although the lines are at times drawn with great difficulty, and we must accept our somewhat arbitrary classification with a full understanding of its limitations, which are further enhanced by the possibility that we may at any time be called upon to divide or re-allot in accordance with our future acquisition of new light upon the subject.

Disturbances of the blood-forming function or organs enters to some degree into the causation of all anemias, as does also perhaps hemolysis or blood destruction, and the real point in classification is whether these dominate the clinical picture, while the disturbances of other organs play a dependant and minor part, in which case we call the anemia primary essential or idiopathic, or whether the preceding concurrent organic diseases, or deleterious influences are so prominent as to force upon our acceptance the belief that they stand in a direct causal relation to the anemia, in which case we must entitle it a secondary or symptomatic anemia.

The term "splenic anemia" although a convenient one to designate a class of cases in which the enlargement of the spleen is a notable symptom, has at present no real status, for it is a mixed class, some of the cases being symptomatic anemia and others being instances of Hodgkin's disease.

Until within a few years writers and teachers spoke of a simple anemia or a simple primary anemia and some still retain this division, but the hematologists have swept this away, for as Stengel distinctly states "there are no characteristics by which this may be satisfactorily recognized."

Those affections which are characterized by notable or distinctive alterations in the numbers and varieties of the white cells being at present grouped by themselves our classification of the anemias is therefore reduced to:

- I. Primary; *a*, pernicious anemia; *b*, chlorosis.
- II. Secondary or symptomatic anemia.

This latter large residual class of anemias becomes necessarily one of great interest, for, as we have just seen, it embraces all the cases of anemia which remain after the exclusion of pernicious anemia and chlorosis, and fortunately by its very name it forces upon us the obligation of discovering the cause of the anemia when we undertake the treatment. No sooner have we decided that an anemia belongs to the class of secondary or symptomatic anemia than the question confronts us: Secondary to or symptomatic of what? This brings us directly to a consideration of the possible causes of such anemias and this must necessarily be brief. They may be influences

which act from without, in short, matters of environment, or they may be from within, conditions of actual disease. Hence hygiene, employment, dirt, hemorrhage, parasites, infectious diseases, organic disease and neoplasms, chronic diseases of nutrition, and toxic influences may stand in a causal relation. This list is not a long one and is often passed over lightly but a little serious consideration shows us that it really covers very nearly the entire field of internal medicine. The view that secondary symptomatic anemias show an approximately equal reduction in both red cells and hemoglobin is no longer tenable in the light of the results of extended series of observations. It has been shown that the reduction of hemoglobin is greater than the reduction of red cells. While this reduction is not very marked it is at times as great as that found in typical cases of chlorosis. Stengel's average in 100 cases of secondary anemia was red cells 88.6 per cent., hemoglobin 76.4 per cent., but in individual cases the reduction was often much greater. Rickets, carcinoma, tuberculosis, and syphilis show this most frequently and to such an anemia the term chloranemia finds its most apt application.

Pallor, which may have a slight icteric hue, gastrointestinal disorders, anorexia, constipation, anemic murmurs, cardiac dilatation, palpitation, dyspnea, depression, weakness, languor, neuralgia, headaches, and in females menstrual disturbances may all occur in the secondary anemia as they do in the chlorotic woman. The differential diagnosis then, although easy in typical cases, is not always a simple matter. Examinations of the blood from which so much was expected do not solve the problem *at times* even when conducted by experts, as, in the absence of leucocytosis, characteristic differences are not uniformly present in these conditions. The clinical history of the patients and a painstaking investigation of their occupation, habits, and environment, together with the results of physical examination must be taken into consideration before we may make our diagnosis.

To return now to chlorosis with which this paper properly deals we find that its definition has been modified considerably in the direction of greater brevity. It is one of the primary anemias occurring almost exclusively in young women from puberty to the twenty-fourth year, characterized by a marked diminution in the amount of hemoglobin and attended by the usual clinical symptoms of anemia. The greenish-yellow color of the skin which is present in typical cases is by no means constant and many patients who in other respects correspond to the accepted clinical picture and show the customary alterations in the blood do not present this appearance.

Another fallacy which has been handed down to us is that blondes are more liable to become chlorotic than brunettes, but this opinion is no longer maintained. Moreover, as has been pointed out by Fagge, the chlorotic tint is best seen in those girls who are naturally of a dark complexion.

Since chlorosis occurs chiefly in women during the earlier years of menstrual activity, it was but natural that an effort should have been made to find out its cause in some derangement of the reproductive organs. Consequently the amenorrhea, which while probably symptomatic of the anemia, often appears before the other symptoms are developed to such a degree as to attract notice, was seized upon and paraded as a cause, but instances of menorrhagia also have been recorded by Rousseau and others. Further color was given to the above theory by Rokitansky in 1846 when he drew attention to the existence in certain cases which came to autopsy of a lack of development in the genital system. Niemeyer's statement is frequently quoted, that he had never met with a case in which the menses appeared early while the breasts were still undeveloped without the occurrence later of an obstinate chlorosis. Late establishment of the menstrual flow has also been linked with the disease. More commonly the symptoms do not declare themselves until two or three years after this epoch and Hayens found the average age of the onset of chlorosis in 52 cases to be seventeen and a half years.

Despite this close association of chlorosis with the menstrual life of the patients there seems to be on the whole no reason for assuming that there is between them an exclusive relation of cause and effect.

In 1856 Virchow stated authoritatively that he had found in certain cases of chlorosis a congenital hypoplasia or retarded development in the circulatory system with narrowing of the lumen of the aorta and unusual thinning of its walls. Virchow's renown as a pathologist at once gave to this finding an established position as a potent etiological factor and no chapter on chlorosis has since that time been deemed complete without its mention. Fagge, however, than whom probably this century has produced no keener observer or more logical medical critic, points out that among Virchow's cases are several in which there was obstructive disease of the aortic or mitral valves, which in themselves may cause faulty development and narrowing of the aorta, and that such disease of the valves is not congenital but the result of endocarditis in early childhood. Moreover, not only have autopsies on many chlorotic patients shown normal aortas, but perhaps the strongest argument against the presence of such vascular hypoplasia, in any considerable proportion of cases, is found in the

prompt and complete recovery of most chlorotics under suitable treatment.

Another epoch in the supposed etiology of this affection dates from the publication of the views of Sir Andrew Clark, which, by the way, did not originate with him, that the constipation, which is so commonly associated, results in the absorption of toxic products. In this connection, the term copremia is most commonly employed. Certainly, constipation is a common symptom, and it is a matter of general observation that the relief of this condition favors the action of other measures for the cure of the disease, but any theory that hemolysis, pure and simple, produces the chlorotic condition of the blood seems to have been definitely disposed of by Van Noorden and others, who have shown that urobilin, which is invariably increased in the urine when there is excessive destruction of red cells in the organism, is present in the urine of chlorotics in decreased or at best only in normal quantities. This is an important fact.

Forchheimer takes the view that hemoglobin is chiefly manufactured in the intestine, and that intestinal putrefaction interferes with its production. Of this he considers the reduction of urobilin in the urine an important sign.

The nervous system and especially the sympathetic system offers us an extremely interesting field for speculation, the more so because certain recognized predisposing causes, such as fright, shock, grief, disappointed affection, homesickness, etc., may act through this little understood channel upon the innervation of the blood-forming organs and influence their output.

The blood-forming organs themselves when interrogated by the pathologist throw no light upon the subject, as they present no characteristic changes. The spleen is frequently enlarged. Anemia, small hemorrhages and fatty degeneration of the important abdominal organs may be present as in other forms of advanced anemia.

Much interest has attached of late years to certain changes in the gastro-intestinal tract. Dilatation of the stomach, gastropathy, fatty degeneration of the gastric tubules and gastric ulcer, have all been found with considerable frequency, but these are all open to explanation of being secondary phenomena, while if they be primary lesions the question is debatable whether the resultant blood condition should not be classed as a secondary anemia.

The suggestion that chlorosis is an infectious disease rests chiefly upon the occurrence in certain cases of venous thrombosis and the occasional presence of fever and of enlargement of the spleen. Micro-organisms have been found in the blood of patients

with these symptoms, but the proposition will not hold good of all chlorotics.

Thus far no mention has been made of change of climate and environment as seen in the immigrant class, nor of the influence of overwork through long hours in close, badly ventilated, and often poorly lighted workshops or apartments, with the hurried consumption of coarsely prepared and unsuitable food. These are of undoubted importance in the cases which occur in the ranks of the employed. But because the patient comes from the well-to-do classes it by no means excludes the possibility of an improperly adapted diet hygiene with overstudy, late hours, dancing, and excessive fatigue. Therefore, when all has been said on the subject of etiology we find no single constant cause operative in all cases but various factors which serve to disturb the balance of the hemogenous organs, which although they have previously managed to keep up with the demands made upon them now give way under a strain which is put upon them at puberty when the body is undergoing a rapid development, which can only be accomplished properly under favorable conditions.

The symptomatology of chlorosis has much in common with the other anemias, yet the careful statistical investigation of individual symptoms has developed much that is of interest. When some emotion or other etiological factor acts through the nervous system the onset may be sudden. The same is true when there has been some decided alteration in the patient's habits of living or her environment, as in change of residence to a foreign country, but otherwise the onset is usually gradual and may not excite remark among the friends until some single prominent symptom, like amenorrhea, fainting, dyspnea, or palpitation forces itself on the notice of the patient or her family. With the younger patients, as in the anemias of childhood, the first indication may be a disinclination to engage in their usual sports, exercise, or more active duties. Headache is more common in the early stage. The pallor which, as we have seen, does not always exhibit the characteristic tint so commonly described is more certainly determined by an examination of the mucous membranes of the mouth and conjunctiva since certain cases present a vasomotor dilatation of the face which may be misleading. These latter cases have been designated chlorosis rubia or florida. It may happen that the embarrassment incident to the medical interview may temporarily put a fair degree of color into the face of the patient.

Contrary to the usual findings in cases of secondary anemia the subcutaneous fat is often rather increased than diminished, although this is not true of all cases.

Explanations of this phenomena are varied, such as that the persistence of the fat is due to feeble oxidation owing to the reduced amount of oxygen-carrying hemoglobin in the circulation, or that it results from the avoidance of exercise while consuming the usual quantity of food, or again because the patient from a feeling of chilliness dresses warmly and thus lessens heat radiation and production with reduced combustion of the body fats.

Edema when it occurs is present about the eyes and ankles but seldom to any marked extent. Pigmentation of the skin about the joints is at times found as in other diseases associated with anemia. Few cases exist without more or less disturbance of digestion. When constipation is a factor the breath is offensive. The appetite is often lacking or perverted and it is customary to state that pickles or sharply spiced foods are more willingly eaten and that there is often a craving for chalk and slate pencils.

Hayem, who first maintained that the dyspepsia of chlorosis is due to a deficiency of hydrochloric acid, later found, in a series of 70 cases, one-half in which there is hyperpepsia and some cases in which there was an excess of hydrochloric acid; while Oswald found hyperacidity in 95 per cent. of his cases and concluded that neither deficiency of hydrochloric acid nor motor deficiency in the stomach played any part in the dyspeptic disorders of chlorosis. He consequently decried as injurious the indiscriminate giving of hydrochloric acid in this disease. More attention should doubtless be given to the position of the stomach and the physical condition of its walls for while Hayem records the existence of dilatation in 27 out of 37 cases examined more recent writers have considered that some degree of gastropathy is present in a large proportion of the cases, and that the severer the case the more probable it is that one or both of these conditions exists.

Nausea and vomiting which may take the form of morning regurgitation of food is not uncommon. Epigastric distress and pains which are neither constant in degree nor in location are of frequent occurrence. Constipation with the accumulation of hard scybala masses has already been sufficiently referred to. In the presence of a considerable anemia, which affects as well the nerves and the nerve-centers, it is not surprising that there should be headache depression, occasionally amounting to melancholia, hysteria hyperesthesia, and neuralgia, whose dependence on the anemia is best indicated by their yielding more surely upon the administration of iron than with the use of any other measures. While the course of chlorosis is usually apyretic and the temper-

ature may be even subnormal, some cases undoubtedly show some continuous or irregular elevation. This has been ascribed to fatigue (Hayem), to constipation, and the absorption of toxic products from the bowel (Potain and E. Guan), or to the existence of complications. While some analogy is found in the fever which accompanies pernicious anemia, its presence should always excite suspicion and before it is accepted as symptomatic of the chlorosis other complications and especially tuberculosis should be carefully sought for and excluded.

Of the various disturbances of the circulatory system, palpitation is most commonly complained of by the patients, and this it may be which leads them to seek medical advice. If the anemia is marked even moderate exertion, or any sudden emotion serves to bring it into prominence. Vascular murmurs are of frequent occurrence, and some of the best examples are to be found in this disease. Richardson found the so called venous tumor, or bruit de diable in the vessels of the neck, in fifty per cent. of 180 cases, but Henry thinks this is probably a low figure. This murmur was much more frequent on the right side alone, 33.3 per cent., than on the left, 6.1 per cent., while on both sides it was audible in 11.1 per cent. The cardiac area may be normal, but dilatation may occur with some increase in cardiac dulness. As the anemia increases murmurs develop over the precordium. These are usually first over the pulmonary area, and then may be heard over the mitral, tricuspid or aortic areas. Barr found bruits in 115 out of 205 cases. Of these 56 were heard at the base, 13 at the apex, 24 at both base and apex, and 22 at base, apex, and back. The wider the audibility of the murmur the more liable was the heart to be dilated, and the more readily was it affected by treatment. Eichorst, who seems to have observed a group of more severe cases, as shown by the more general dissemination of the murmurs, reports in 38 chlorotics a murmur in the pulmonary area in 30, tricuspid in 28, mitral in 27, aortic in 13 cases. The murmur was loudest in the pulmonary area in 21 of the patients, mitral, 9, and tricuspid, 8. The various explanations offered for these murmurs would involve a consideration of the whole mooted subject of hemic and functional murmurs, including relative insufficiency of the valves. The pulse is susceptible to considerable variations even in the same individual, but there seems to be a general agreement that it is readily accelerated to a moderate extent, and that, as a rule, the blood pressure is lowered. Dyspnea is a troublesome symptom, and increases with the reduction of hemoglobin.

Dowd in his series of 31 cases examined in Roosevelt Hospital was impressed with the fact that the

severity of the symptoms was dependent rather upon the lowered hemoglobin than the paucity of the red corpuscles.

The most notable characteristic of chlorotic blood, as has been stated above, is the extreme reduction of the hemoglobin while the red cells suffer to a relatively much slighter degree. In placing a drop of fresh blood upon the slide for microscopical examination we notice that it is thin and pale, and that it coagulates more rapidly than normal although we are told that the fibrin is not increased. The individual red cells are noticeably colorless, especially in their centers, and there is a uniform decrease in size. Only when the case is a severe one do very small and very large cells (microcytes and megalocytes) appear. The blood-plaques are largely increased in number, and Hayem, who considers them the early form of the colored corpuscles, thinks that in this disease their development into complete red cells is retarded. Certain writers have maintained that there is a condition of hydremia and that the actual volume of the blood is increased.

The very valuable series of examinations made and tabulated by Thayer of 63 cases, and by Cabot of 77 cases, give us an excellent opportunity of studying the relation of the red cells and the hemoglobin. Their averages for their series correspond strikingly. They are respectively: Red cells 4,096,544 and 4,500,000 per c.mm. Hemoglobin 42.3 per cent. and 41.2 per cent., or about half the normal amount of hemoglobin for each cell present. These averages would at first sight seem to indicate that the number of red cells is not greatly reduced, and indeed that is true of a considerable number of the cases, but in the proportionately smaller number of severe cases the count of the red cells may be greatly reduced. Cases are recorded in which the counts were as low as 1,953,000 (Thayer), 1,932,000 (Cabot), 1,500,000 (Stengel), with hemoglobin respectively, 17 per cent., 19 per cent., and 20 per cent. Yet hemoglobin of only 20-35 per cent. may be found with the red cells from 3,000,000 to 4,000,000 per c.mm.

It is with the development of the more marked oligocytopenia that we begin to find other changes common to all severe anemias, namely, variations in size, poikilocytosis, degenerative changes and the appearance of nucleated red corpuscles. These changes are seldom as marked as in the severe secondary anemias of the same grade. The nucleated red cells are almost invariably normoblasts and the megaloblasts so common in pernicious anemia are seldom found. Reinert's 247 tabulated cases in which the red cells were 4,000,000 and over in but 99 cases, and fell below 4,000,000 in 148 cases,

are very interesting as showing that the cases of chlorosis abroad advance to a more extreme degree than with us, probably because the patients do not seek treatment as early.

It may be definitely stated that there is no leucocytosis in uncomplicated cases. Cabot's series averaged 7485 white cells per c.mm. and Thayer's 8467 per c.mm. Although there is no increase in the total number of the white corpuscles there is at times a relative increase in certain forms, that is of the mononuclear forms, a so-called lymphocytosis. This led Neusser to advance the view that chlorosis could be divided into lymphatic and splenomyelogenous types. The former was associated, he thought, with enlarged glands and the so called lymphatism, the latter with enlargement of the spleen and pain in the bones. Neusser's views, however, do not seem to have been substantiated by others. The finding of an occasional stray myelocyte has no significance.

The specific gravity of the blood which sinks in direct proportion to the loss of hemoglobin is consequently much lowered. Cabot states that 1030 is not uncommon and Stengel quotes 1020 in one case. Biernaki should be recorded as standing alone in his opposition to the generally accepted view that the iron in the blood is reduced in quantity. In the fluid portion of the blood the water is increased and the amount of albumen is decreased. Opinion is divided with respect to an increased alkalinity of the plasma. In the regeneration of the blood under the use of iron the red cells first show increase in numbers, and later improve in size, weight, and color.

The chief difficulty in the diagnosis of chlorosis, by examination of the blood, lies, as has been said, in differentiating it from secondary anemia, from which at times it may be indistinguishable if the latter presents no leucocytosis.

The chief differences between the two as stated by Cabot are as follows: in secondary anemia the red cells may be reduced lower in numbers for a case of equal severity. Their size and shape is more varied while not exceeding nor usually equaling the normal size. Necrobiotic or degenerative changes with polychromatophilia occur earlier and are more marked. Nucleated red cells are more common, chiefly normoblasts. The hemoglobin is relatively low but does not show the same disproportion which characterizes chlorosis. There is often leucocytosis with the polynuclear cells increased in number and the lymphocytes diminished. These are the general rules, yet in young women a careful study of the clinical features of the case and of the physical signs must often be depended upon to determine the question.

An interesting pallor is to-day less fashionable and less prevalent than it was some decades ago. The impetus which has been given of late years to outdoor sports is leading to a healthier life. The available hematronics have been considerably increased in number. The patent pill for pallid persons lies exposed on every drug-store counter and fills the daily newspaper with its flaring advertisement. Moreover, the public itself is better informed in such matters, and the terms thin blood, poor blood, and even anemia, with its every variety of popular pronunciation, are more or less correctly applied by the laity. Consequently assistance of some kind is sought for earlier and this assistance is more efficient than formerly. We may at least assert confidently that extreme cases of chlorosis are now met with less frequently among the more intelligent classes.

Although the dictum of Immerman is a true one, as quoted by Henry, that "scarcely any point in therapeutics is so fully established as the remarkable efficiency of iron in removing all the symptoms of chlorosis," it is equally true that while the haphazard use of a few time-honored preparations will produce favorable results in a considerable number of cases, many failures will inevitably follow such a plan. The treatment of chlorosis and anemia is not simply *iron*, but it is the administration of a suitable preparation of iron, together with a proper regulation of the patient's mode of life and the intelligent choice of measures for the relief of disturbed functions. It is, therefore, not unusual to meet with patients who have been under routine treatment for considerable periods without notable improvement, who make rapid strides as soon as they come into other hands and are put on treatment which is judiciously outlined in accordance with the individual needs and indications. When fatigue has been a contributory agent, rest in bed may be imperative, for this reason some patients who do not improve while continuing their usual occupations improve steadily after they enter a hospital. Removal to a different environment, stimulation of the skin by bathing, and the establishment of a better circulation by friction and massage may be of great assistance. Some degree of dyspepsia exists in the majority of chlorotics and often this must be relieved before iron will be efficacious or perhaps even be tolerated. This has been maintained by Hayem, and on this basis Pick treated sixteen patients by lavage with great success. He was convinced that it produced better results in the improvement of digestion than were obtained by drugs. P. Le Gendre favors the use of simple bitters or strychnin or trucia before meals; the administration of hydrochloric acid, if there be proven to be deficiency of secretion, or full doses of alkalies if

hyperacidity exists; while abnormal fermentation is to be checked by bismuth salicylate, naphthol or chloroform water 3 to 4 hours after meals in cases of dilatation.

The diet of the chlorotic should be simple and adapted to the digestive powers of the individual. Milk may usually be given freely. Van Noorden would limit the fats and carbohydrates for plump patients, and give them more freely to lean ones. Meat rare or raw may be given to both, and in itself contains iron, and with egg furnishes albumens, which are said to be deficient. A considerable controversy which is not yet ended was initiated by Bunge when he advanced the theory that the inorganic preparations of iron subserve their purpose indirectly by combining in the intestines with the sulphides which are there formed as the result of abnormal decomposition, and thus allowing the normal absorption of the organic iron compounds present as nucleo-albumens in the food to proceed without interference. Even the most active opponents of this theory are forced to admit the efficacy of inorganic iron compounds, and the question whether inorganic iron is directly absorbed into the blood, or acts as a stimulant to the hematopoietic organs, or is only of value in the way that Bunge has suggested, is still an open question. Authorities seem to differ as to the amount of iron which it is necessary to administer, and the advocates of smaller doses base their claims on the very small amount of iron contained even in the normal, healthy human body, and remind us that nearly all the iron given by the mouth is recoverable in the stools. It is possible that when the digestive tract has been well prepared for absorption, the small doses are proportionately more fully taken up. However, it is common experience that large doses are often efficacious when small ones have failed. Of this phenomenon Bunge's theory furnishes us our only explanation. While the weight of opinion seems to be in favor of the use of inorganic preparations of iron in massive doses, the usefulness of organic preparations in certain cases cannot be denied. The favorite forms of giving iron are as Blaud's mass, sulphate of iron in Startin's mixture (Clark's), lactate of iron (Quincke), Liq. ferri sesquichlorid G.P. (Israel), tinct. ferri chlorid (Nothnagel), proto-oxydate of iron (Hayem), to which may be added the long list of officinal combinations of iron with the vegetable acids, and the non-officinal albuminates, peptonates, and preparations of hemoglobin and the nucleo-albumens. In general, it is safe to say that the best guide to the choice of a preparation of iron is the condition of the stomach. Townsend, in several groups of cases treated by different methods, secured the most rapid

increase of hemoglobin when beta naphthol, grains 2 were given with 5 of Blaud's mass, thrice daily, thus securing intestinal antisepsis. Forchheimer selected solol and hydronaphthol as the most efficient antiseptics, giving them in 5-grain doses with iron. The hypodermatic administration of iron which has been used considerably upon the Continent has met with little favor here on account of the pain and irritation caused by most preparations. Da Costa, however, claims to have eliminated this by the use of 15-minim doses of a twenty-per-cent. solution of the unofficial ferri et mangani citras.

Relief of the associated constipation of chlorosis, and of that which is induced by many of the iron preparations is imperative for the attainment of prompt results. Cascara has of late been much used for this purpose and is often better tolerated by the stomach than the salines and natural purgative waters which have long held their position. Sir Andrew Clark combined the laxatives with the irons in Startin's mixture above mentioned. He also employed pills of aloes, myrrh, and iron. Arsenic has little effect alone but is often very valuable in combination with iron. The addition of strychnin is frequently of service for its general tonic effect upon the stomach and upon the circulatory and nervous systems. The subjective sense of improvement is not infrequently more prompt under its use. In a similar manner digitalis by slowing and steadyng the cardiac action will add to the patient's feeling of well being. Manganese seems to have failed to fulfil the claims which were made for it. Oxygen, although useful, has no advantages commensurate with its cost. There is a general consensus of opinion that treatment should not be abandoned when the subjective symptoms are relieved, but to avoid relapse should be persisted in until the hemoglobin reaches or approximates the normal.

THE HISTOLOGY OF DUPUYTREN'S CONTRACTION OF THE PALMAR FASCIA: REPORT OF MICROSCOPIC EXAMINATION IN TWO ADDITIONAL CASES.

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IN "A Clinical Study of Dupuytren's Contraction of the Palmar and Digital Fascia," published in the *American Journal of the Medical Sciences* for March, 1899, page 285, I reported a microscopic examination of the lesion in one case and cited the microscopic studies of the disease found recorded by Richer, Chevrot, Anderson, and Langhans. Since that article was written opportunity has been pre-

sented for making microscopic examinations in two more cases of Dupuytren's contraction, which are here reported.

CASE I.—W. H. D., born in New York in 1826, was a sailor and engaged in heavy labor from 1865 to 1889, and after that time was a watchman or lived, without working, as a pensioner. He was subject to occasional attacks of asthma and after 1894 had rheumatism in the left leg. In 1882 the little finger of the right hand began to contract and the flexion continuously increased through the remainder of his life, in 1897 it being stated to be worse than it had been a year previous. The left little finger also contracted progressively from 1892.

When examined, April 29, 1897, the following conditions were found: In the right hand a prominent elevated band extended across the palm from near the wrist to the little finger, with marked indrawing of the skin opposite the metacarpophalangeal joint; the band continued along the radial side of the little finger to the base of the distal phalanx, causing well-marked contraction of the finger, the proximal phalanx being flexed off the metacarpus to an angle of about 120 degrees, and the distal phalanx flexed to about 135 degrees. Forceful extension of the finger caused marked pain along the contracted band. There was also induration and puckering of the skin opposite the metacarpophalangeal joint of the right middle finger, but no contraction of the finger. In the left hand there were slight contracted bands with induration and indrawing of the skin along the lines leading to the little finger and thumb, which were slightly contracted.

The patient died of pulmonary edema December 25, 1898, and microscopical examination was made of the tissues in the palm including the contracted band running to the little finger of the right hand. The band causing the contraction was plainly visible to the naked eye as a well-marked dense, fibrous band belonging to the palmar fascia, situated in the subcutaneous tissue at a greater or less distance from the corium. In cross section the band was of oval shape, measuring about five millimeters in the long axis and three in the short axis; the long axis lay parallel or slightly oblique to the surface of the skin. The cut section of the band was of a dense, glistening grisly appearance and feeling.

Microscopic Examination.—Toward the wrist the band was separated from the corium by an interval occupied by areolar or loose connective tissue, and some adipose tissue, coils of sweat glands, and blood-vessels. Opposite the metacarpophalangeal joint, where the skin was depressed, the contracted band lay closely adjacent to the lower surface of the corium with nothing intervening—not even sweat-glands, which were suppressed or pushed aside in this situation. Although the cord adjoined the corium the tissues of the two were distinct and did not merge into each other. The band consisted of a dense longitudinal aggregation of firm fasciculi of white fibrous tissue, similar in general to the tissues of normal palmar fascia; it was substantially a hypertrophy

or increased development of a circumscribed longitudinal tract of the palmar fascia.

At a point examined toward the wrist the band exhibited a markedly low relative proportion of connective-tissue cells among the fibrous elements. In some of the fasciculi the cells were very scarce and scattered, the fibers being compacted together in exceedingly dense and solid non-cellular masses. In this situation, also, the band was notably non-vascular, the slender blood-vessels present among the fasciculi of normal palmar fascia being here almost entirely absent. At another point examined (at the depression of skin over the metacarpophalangeal joint) the connective-tissue cells were very abundant, fully as numerous as in normal fascia. The blood vessels in this portion of the band also were quite scanty, though somewhat more abundant than in the other situation examined. They were capillaries or very small vessels with only a scanty adventitia, and were not surrounded and accompanied by any abundance or proliferation of connective-tissue cells.

The stratum corneum of the skin was somewhat thickened, apparently from non-use of the hand and lack of attrition of the surface; the remaining portions of the skin, in the sections examined, were not materially if at all thickened. Inversions of the skin, so that a tip of epidermis and corium (drawn by the traction of shortened fibrous bands) projected entirely underneath the surface skin, were present and conspicuous. The sweat-glands were unaltered, except in being absent at points where the band was closely apposed to the corium. Otherwise no abnormality was observed in the tissues surrounding the affected fascia. A few Pacinian bodies were seen alongside the band.

CASE II.—J. D. P., born in Tennessee in 1819, was a farmer until 1855, a soldier from 1855 to 1882, and after the latter date an inmate of a Soldier's Home. From 1871 he was subject to occasional attacks of chronic rheumatism. About 1891 or 1892, while occupied in raking leaves, a contraction of the fascia gradually developed in the right palm, unattended by pain.

When examined March 10, 1896, in the right palm there was a slightly elevated band of contracted fascia running from the palm to the middle phalanx of the little finger, flexing this phalanx to an angle of about 135 degrees. There was also a slight band to the ring finger; the left palm was scarcely affected. The patient was markedly senile. No further change was noted in the condition of the Dupuytren's contraction. The subject died May 18, 1899, from circulatory disturbances resulting from hypertrophy of the heart, and the skin and underlying tissues including the contracted fascia leading to the right little finger were subjected to microscopical examination.

To the naked eye the band causing the contraction appeared as a dense fibrous band, with a glistening grisly appearance and feel, situated in the subcutaneous tissues immediately beneath the corium.

Microscopic Examination.—Cross sections of the affected tissues were made at two points, at the transverse line in the palm opposite the metacarpophala-

langeal joint, and at the line of junction of the little finger with the palm. At both these points the band appeared as a dense longitudinal rounded or oval aggregation of white fibrous tissue, not exhibiting any marked division into fasciculi; its tissue was not essentially different from that of normal fascia, being a hypertrophic development of the latter. The band was situated in the layer of subcutaneous fascia, and was in immediate juxtaposition with the lower surface of the corium; the band and corium, though in contact, were distinct structures and not continuous with each other. Among the closely aggregated fibrous elements of the band nuclei of connective-tissue cells were abundant and prominent, elongated in form (rounded or polygonal in cross section). The band contained few vascular channels, a few scattered capillaries being present without any accumulation of connective-tissue cells surrounding them.

At the base of the little finger the band was elliptical in cross section, about three by two millimeters in size, the longer axis being transverse. In this situation two Pacinian bodies were observed along-side the band. Over the metacarpophalangeal joint the band for a short distance was composed of two divisions side by side, giving a combined transversely oval cross section 3.15 by 2.5 millimeters in size. One of the divisions of the band at this point was connected with a large fascial band extending downward. Aside from some thickening of the stratum corneum (probably due to non-use of the hand) the skin was not materially thickened or altered, and no other abnormalities were observed in the tissues surrounding the hypertrophied band.

A comparison of the histological conditions in these cases with those found in the case of H. D. J. (published in the journal above cited) exhibits some noteworthy points. In the case of H. D. J., the contraction was of recent development, about eighteen-months' standing; the contracted band contained a great abundance of connective-tissue cells, and numerous small blood vessels surrounded and accompanied by a great profusion of cells passed among the fibrous fasciculi. In the cases here reported the contractions were of long standing, having existed sixteen and eight years respectively, though in Case I., stated to have been continuously progressive. As compared with the case of H. D. J., the contracted bands were less vascular; the vessels present were unaccompanied by any abundance of cells in their adventitia, the connective-tissue cells among the fibrous elements were less numerous and at one situation in one of the cases very much diminished.

These observations go toward indicating that in the early or developing period of Dupuytren's contraction the cellular and vascular elements occur in great abundance; while at a later stage, when the lesion is fully developed and stationary the cells and vessels diminish, leaving the abnormal tissue a dense fibrous mass; and that the hypertrophied fibrous bands are developed by the activities of the abundant connective-tissue cells, which are proliferated in especial profusion along the course of the small

blood-vessels. The lesion is essentially a hypertrophy, the new tissue being similar to the pre-existing normal fascia. Any etiological explanation of Dupuytren's contraction would have to take into account the active proliferation and the fibroplastic action of the connective-tissue cells and their relation to the vascular elements. The presence of Pacinian bodies in all the three cases microscopically examined by me is perhaps worthy of mention.

CLINICAL MEMORANDUM.

TREATMENT OF SUPPURATION OF THE MIDDLE EAR WITH ACETANILID.¹

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THE following cases have been selected as fairly representing the results of the use of acetanilid in the treatment of suppuration of the middle ear in a series of seventy-five patients treated during the past three years. Fewer acute cases (3) are mentioned because of the greater tendency of the patients toward recovery.

CASE I.—A. F. F., female, aged fifteen years, a student. Discharge from right ear of three-weeks' duration, occurring one week after attack of grip. The hearing was entirely lost in this ear. The discharge was profuse, the pulsating vessels of the tympanum forcing it into the auditory canal at each heart-beat. The edge of the perforation in the membrana tympani was covered by granulations. These were removed with Hartmann's forceps, and their bases destroyed by applications of nitric acid. Each day for twelve days the ear was cleansed with hydrogen peroxid and carefully dried with absorbent cotton twisted on a probe, after which a small amount of finely powdered acetanilid was insufflated. On the thirteenth day the discharge ceased; on the following day the perforation was closed and hearing improved 10 per cent.; and after inflation of the middle ear twice a week for two more weeks the hearing was restored to normal.

CASE II.—A. S. G., female, aged fifty years. Discharge from left ear for two days. Cleansed with hydrogen peroxid on cotton, dried, and insufflation of acetanilid daily for five days. The discharge stopped on the sixth day and the membrane was healed on the ninth. Hearing of the affected ear improved 15 per cent.

CASE III.—A. V. B., aged eleven months. Slight purulent discharge from left ear for six weeks. Cleansed the ear and insufflated acetanilid daily for three days. The discharge ceased on the fourth day, and the perforation closed immediately. Hearing not recorded on account of patient being an infant.

Of the chronic type I report seven cases.

CASE I.—C. L., female, aged three years. Discharge from both ears for two years. Patient tuberculous and suffering from acute meningitis when seen by me in consultation with family physician. Cleansed the ears with

¹ Read before the American Laryngological, Rhinological and Otological Society, at Cincinnati, Ohio, June 3, 1899, and before the Maine Medical Association at Bangor, Maine, June 7, 1899.

dry absorbent cotton and applied acetanilid daily for five days. The discharge, which was very free, stopped on the sixth day; recurred on the seventh in the right ear only; ceased on the ninth day and had not returned in either ear at the last report, three months later. Hearing improved, per cent. not noted.

CASE II.—E. M. W., male, aged twenty-one years. Occupation, clerk. Suppurative discharge from left ear of 18-years' standing. The membrane was absent save a very narrow margin above, and the tympanum was covered with granulations. The discharge was very foul. Cleansed the ear daily with hydrogen peroxid and made occasional applications of a one- or two-per-cent. solution of nitrate of silver and finally of lunar caustic until the granulations were destroyed. These applications were always followed by a complete filling of the tympanum with acetanilid. This treatment was continued every day for three months. The discharge decreased and became less foul-smelling but did not entirely cease. I have just learned, two years from the date of beginning treatment, that my patient is dying from phthisis. No improvement in hearing noted.

CASE III.—F. B. M., female, aged thirty-two years. Occupation, housewife. History of discharge from right ear at intervals of a few years for past sixteen years. When first seen by me one year ago the right meatus was two-thirds full of foul, pasty pus and the lower half of the membrane was absent. The pus was removed with an ear-scoop, and the canal and tympanum cleansed with hydrogen peroxid. Acetanilid was freely insufflated after the cleansing and drying, twice in four days. The discharge stopped on the fifth day, recurred on the fifteenth, when the above treatment was repeated; ceased on the following day, and had not reappeared one month later, at last report. Hearing improved 25 per cent.

CASE IV.—H. C. S., male, aged thirty years. Occupation, druggist. Diabetic history. Frequent discharge from right ear for twenty-five years. Patient consulted me one year ago, when I observed a collection of foul pus below a small perforation in the superior posterior quadrant of the membrana tympani. Cleansed with hydrogen peroxid and insufflated acetanilid every other day for ten days, when the discharge ceased and the membrane healed. No recurrence at this writing. Hearing not improved.

CASE V.—S. L. E., female, aged seventeen years. Family and personal history of scrofula. Patient had been confined to the house on account of injuries received from a fall, and her health was much impaired. There had been a fetid discharge from both ears at intervals of a few months for four years. At my first visit, seven months ago, this discharge had returned with increased profuseness. Daily cleansing of the ears with cotton swabs saturated with hydrogen peroxid and the free insufflation of acetanilid was instituted and carried out for two weeks, with marked diminution of the discharge. There was 35 per cent. improvement of hearing in the right ear, and 50 per cent. in the left. Soon afterward I lost sight of the patient, but not before providing her with an outfit with which to personally carry out the treatment.

CASE VI.—A. H. S., male, aged eight years. History of suppuration of both ears for six years. When I first saw the patient, six months ago, his mother stated that he had complained of pain in the left ear for ten days and in the right for twenty-four hours. Inspection showed perforation of each drum membrane at the lower end of the manubrium. There was a little serous discharge from the right ear, and more, of a seropurulent nature, from the left; and pulsating of the vessels of the tympanum. I cleansed the ears with dry cotton and applied glycerite of carbolic acid daily for five days. This relieved the pain but the discharge became purulent in both ears. I then began the daily use of hydrogen peroxid and acetanilid. The discharge ceased in the right ear in three and one-half weeks, and in the left in five weeks. Both membranes healed. There was a recurrence in the right ear two months later, but this soon yielded to the same treatment. Hearing improved three per cent. in the right ear.

CASE VII.—E. E. W., female, aged nineteen years. Health good. History of a discharge from both ears nine years ago, and recurrence in the left during the previous two weeks. Inspection showed two perforations; the smaller was in the posterior superior quadrant of the membrana tympani, and its edge was covered with one granulation the size of the end of an ivory crochet-needle; the larger was in the lower half of the membrane near the border. I removed the granulation and applied nitric acid to its attachment. I then cleansed the ear and applied acetanilid in the usual manner twice a week for three weeks, when the discharge ceased. No improvement in hearing was noted. The discharge has reappeared within the past three weeks, six months after the last visit, and the ear is now progressing favorably under the same plan of treatment.

CASE VIII.—K. C., female, aged twenty-three years. Health fair. Consulted me five months ago. History of discharge from left ear one year, six months, and one month previous. Inspection showed total loss of the membrane and ossicles. After cleansing with hydrogen peroxid I applied a two-per-cent. solution of silver nitrate and insufflated acetanilid daily for two successive days. The discharge ceased on the third day and had not returned one month later, at last report. No improvement in hearing.

CASE IX.—A. F. F., female, aged fifteen years. Occupation, student. Patient somewhat anemic and not strong. Left ear had discharged at intervals since an attack of scarlet fever at three years of age, and hearing had been almost lost in that ear. At time of consulting me the discharge was abundant and fetid, with a large perforation in the anterior superior quadrant of the membrane. I cleansed the ear with peroxid of hydrogen, applied glycerite of iodin to the inflamed tympanic membrane and adjacent auditory canal, and then filled the inner fourth of the meatus with acetanilid closely packed. The following day there was a very little moisture at the outer edge of the impacted acetanilid. The second day the ear was dry, and there had been no recurrence of the discharge at the date of the last report.

three months later. The acetanilid was gradually wiped out or fell out, and exposed to view through the old perforation a healthy condition of the tympanum of a formerly chronically suppurating middle ear. The hearing improved gradually until it became half of normal.

CASE X.—C. H. T., male, aged seventeen years. Occupation, student. Health fine. History of purulent discharge from the left ear six months before which yielded to treatment but recurred two weeks before I saw him and had continued four days. Cleansed for two successive days with hydrogen peroxid, carefully dried and insufflated acetanilid. The discharge ceased on the third day. This case was complicated with a very painful furuncle of the external auditory canal. This was opened and the same treatment applied with happy results. There was no noticeable change in hearing, as was to have been expected in so short a time.

As peroxid of hydrogen was used in nearly all these cases it might be said that the remedial effect was due to it quite as much as to the acetanilid. Observation has not, however, given me the results with the hydrogen peroxid alone that have compared at all favorably with the simple cleansing and drying of the canal and tympanum with absorbent cotton and the subsequent insufflation of acetanilid. Hydrogen peroxid is employed as a temporary cleansing and antiseptic measure to prepare the suppurating surface for the powdered acetanilid, which acts as a drying agent and also as a valuable antiseptic whose power is exerted so long as it remains upon or adjacent to the surface to be medicated.

A few words in explanation of the details of treatment may not be amiss. First I carefully remove all the discharge that can easily be reached by an applicator with dry absorbent cotton twisted on its end. Then I saturate the same with peroxid of hydrogen, apply this to the auditory canal and tympanum, and after waiting a minute for it to act, carefully wipe out all resulting débris and moisture. Sometimes, having the patient tilt the head to the opposite side, I fill the middle ear and canal with the hydrogen preparation, and after a minute let it run out and carefully wipe the parts dry. By use of the hydrogen peroxid inspissated mucus, pus or cerumen are softened and disintegrated, and the expansive force of the gas generated is sufficient to carry much of the discharge into the external meatus, and even out on to the cheek if not caught by a bit of cotton. I have never had a case in which it found an outlet by the Eustachian tube, choosing rather the easier way of escape.

Syringing the ear for any purpose except to remove foreign bodies or inspissated cerumen is, I believe, a pernicious practice. The middle ear is an air-cavity and does not bear fluids at all well. They irritate the delicate mucous lining, and so do harm. Further, some of the liquid invariably stays behind, and by its presence adds one of the elements that is essential to suppuration, namely moisture. This danger is largely if not entirely avoided by use of the lively peroxid of hydrogen.

As to the use of acetanilid, I would advise that only the most finely powdered be used, and that but little be applied to the middle ear and canal in acute suppuration, and

in most cases of chronic suppuration. In some obstinate cases of the latter prompt and permanent checking of the discharge and a desirable condition of the mucous lining of the tympanum is brought about by packing the middle ear and inner fourth of the canal with this drug, but this procedure is unsafe unless the patient is seen every day and carefully watched to guard against retained discharge from caking of the powder. An insufflator may be devised from a short piece of glass tubing and a longer piece of rubber tubing of the same size; or the ordinary powder blowers for sale by instrument dealers serve the purpose well, and to my mind are preferable.

MEDICAL PROGRESS.

A Type of Tropical Fever.—WEDEKIND (*Med. Record*, August 19, 1899) describes a very common type of tropical fever which prevails in the Philippine Islands and is known to the Spaniards as *calentura*. It attacks a new arrival within a short time. There may or may not be a slight sensation of chilliness and then a temperature of 102° or 103° F. This increases until 104° or 105° F. is reached. Headache, general myalgia, anorexia, and marked asthenia, and gastric disturbances are noted. Without treatment the patient will convalesce in a week. Quinin has no specific effect, whether used in small or large doses. Aconite acts almost as a specific. As soon as the patient is admitted to the hospital he should be given divided and frequent doses of calomel until two or three grains have been taken and afterward a saline purge. Four drops of the tincture of aconite are to be given every three hours for three, four, or five days. An opiate may be required to relieve the pain in the muscles. In the majority of instances the temperature will be normal on the following day and will remain so. After three or four days in bed the asthenic condition will be overcome. Calentura is non-malarial and is apparently due to the direct rays of the sun. Female members of European families who remain under cover during the hot portion of the day escape this fever. Many cases of calentura develop on board ship in men who have not been on shore for many months and while the ships are anchored at least a mile from shore. All drinking-water under these circumstances is distilled aboard ship. Furthermore, protection from the sun's rays by the use of a white umbrella, a large, light helmet, and loose white clothes, will in almost every instance save a new-comer from an attack of the fever. Plasmodia were searched for in the blood of many patients but were never found.

The Results of Bottini's Operation for Prostatic Hypertrophy.—STOCKMANN (*Rev. de Therapeut.*, July 15, 1899), is an advocate of the more frequent use of Bottini's operation in prostatic hypertrophy. This operation is easily performed and often requires only local anesthesia or at most a very short administration of ether. It does not mutilate the patient. It confines him to bed for a short period only, and yields good results. As is well known, it consists in the introduction of a galvanocautery point of a suitable shape to cauterize the prostate through the ure-

thra. One or more grooves according to circumstances are burned in the hypertrophied gland. In order to assure himself that the cautery-point is sufficiently hot, the writer auscultates the symphysis and is able to learn from the character of the hissing sound produced whether the cauterization is satisfactory. After the cauterization has been made, he uses an irrigation of nitrate of silver, 1 to 1000. The bladder should be emptied before the cautery is applied. Out of seven patients treated by him, 1 was cured, 4 were improved, 1 was unimproved, and 1 died fifteen days later of apoplexy. Statistics of 229 cases collected from medical literature show 51.5 per cent. of recoveries, 26.2 per cent. of improvements, 13.9 per cent. of failures, and 8.2 per cent. of deaths. The rather high mortality is due to the fact that the operation is performed upon patients in an advanced state of cachexia. It goes without saying that the patients described as "cured" have not been relieved of inflammatory complications of the bladder, ureters, pelvis of the kidneys or of the kidneys themselves; but it is none the less true that the results of this method of treatment are far superior to those obtained by other methods while it has the especial advantages described above. The chief danger of the operation is the possibility of hemorrhage and urethral fever. In order to avoid this the patient should be examined with the greatest care. The cystoscope should be employed, and a bacteriological examination of urine should be made; and before proceeding to Bottini's operation, an attempt should be made to overcome the prostatic hypertrophy by resection of the vas deferens on each side. If this intervention proves insufficient cauterization of the prostate should be performed.

The Result of the Treatment of Skin Diseases with Tuberculin R.—NAPP and GROUVEN (*Arch. für Dermat. und Syph.*, Bd. xlii, Hft. 3) report extensive trials of the new tuberculin which have been made in Doutrelepoint's clinic for skin diseases. They report 39 cases in detail. The tuberculin was at first injected with normal salt solution, later with water containing 20 per cent. of glycerin. Most of the lesions were covered with moist antiseptic dressings at the same time that the tuberculin treatment was carried out. The general condition of the patients treated with tuberculin varied very much. The fever was of the well-known irregular type. Twice it happened without apparent cause that two strong young men presented severe, indeed alarming, symptoms of cyanosis, dyspnea, collapse, etc. All of the patients lost in weight. Albuminuria was insignificant. One patient developed icterus and cutaneous hemorrhages. The first dose used was as recommended by Koch, but each subsequent dose was about 1-5000 of a milligram greater. The local reaction was only once observed. Histological examination of areas which were apparently much improved showed that tuberculous tissue was still present but that infiltration was much reduced. A number of patients had recurrences after improvement. The authors conclude that tuberculin R. even if it does not produce a permanent cure still has a markedly favorable influence in that it attacks the tubercular process at the same time that it produces, if used with care, no serious disturbance of the

general condition. This report is as favorable as any which has been given concerning its use in dermatological cases.

The Full Bath at 90° F. in the Treatment of Scarletina.—HANSON (*Columbus Med. Jour.*, August 5, 1899), after experimenting with baths at different temperatures, concludes that in the treatment of scarlet fever a bath a 90° F. gives just as good results as one at a lower temperature and that it can be more safely used in asthenic cases and is more comfortable to the child and more agreeable to the attendants than the cold bath. If a bath-tub is not at hand, a large wash-boiler or wash-tub will answer every purpose. The child should be constantly rubbed while in the water in order to effect a rapid change of the blood in the surface of the body. Eight minutes is usually sufficient for the bathing. The child should be dried quickly and put in bed without stopping to put on a night-dress or other clothing. The bath should be repeated whenever the temperature reaches 103° F. or whenever the child becomes restless. The results are even more striking than those obtained with the Brand method in typhoid fever. The good effects consist in a reduction of temperature and a stimulation of elimination and of the circulation. A strengthening of the heart's action relieves the stasis of the skin and internal organs, a change which may be clearly observed by watching the congested conjunctivæ. The repetition of the bath minimizes nerve exhaustion and hastens convalescence. In no case in which Hanson followed this plan of treatment were there any complications or sequelæ. The more he used it the more confident he became of its good results.

Thrombosis of the Superior Mesenteric Vein.—BALLANCE (*Lancet*, July 3, 1899) reports an instance in which the above-mentioned lesion occurred in a man 68 years of age who had always been accustomed to eat heartily and whose digestion was apparently perfect. For three or four days he felt vague and irregular pains in the abdomen, more on the left side than on the right. While driving one afternoon the pain became more severe. Hot fomentations were applied and he passed a sleepless night. The following day he began to vomit and from that time until his death, two days later, he passed practically nothing from his bowels while vomiting became incessant. The pain and restlessness continued with collapse. The abdomen was not greatly distended. In short, he presented the picture of intestinal obstruction without localized tumefaction or distention. At autopsy the entire length of the small intestine was found dark greenish-black, shiny and distended, presenting the same appearance as small intestine in a strangulated hernia. In the upper part of the superior mesenteric vein there was a pale clot adherent to the walls and completely occluding the vein. The lower part of the vein and all of its radicals contained soft non-adherent clots. The splenic vein was not thrombosed. There was no ulceration of the intestine. There was no peritonitis and the cause of the thrombosis was apparently the extreme feebleness of the circulation. The other organs contained a great deal of fat but were otherwise healthy.

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SATURDAY, OCTOBER 14, 1899.

THE PLAGUE THREATENS US.

In this country slight attention has been given to the bubonic plague and its destructive work among the inhabitants of India and no realizing sense of the danger that threatens us has been aroused. Like a smouldering fire, it has been gathering strength for four consecutive years, repeatedly bursting into flames that have leaped their barriers and ignited combustible material at remote points in divers directions. The Island of Formosa, in the East, Oporto and Lisbon in the west, Samarcand in Turkistan in the north and Delagoa Bay in the south are points of formidable attack from which it threatens with invasion the entire civilized world. Even the fancied security of our own shores, due to their remoteness, vanishes before the vigor of its onward march. The time has come to sound the alarm and awaken our remotest outposts to vigilance, alertness, and activity. These are no idle words. The British Empire has already been arraigned for its lack of vigilance and activity in failing to stamp out the disease at its inception. Europe has been derelict in allowing it to gain a foothold within her bor-

ders, and the responsibility of those who are charged with the duty of preventing its admission within our boundaries is great beyond measure. In the minds of many, Europe has stood as a reliable barrier between us and the bubonic plague, but now that this defense has been broken through in many places, the responsibility for our safety comes back upon ourselves.

Accurate scientific knowledge of this disease is steadily increasing, but as yet no specific remedy has been discovered, and a victim to its invasion must depend for relief mainly upon his inherent powers of resistance and the most scientific harboring of his strength by means of careful nursing. A serum has been produced which, as careful experimentation shows, renders immune a certain proportion of those who have been inoculated, and diminishes to a limited degree the death-rate among those attacked, but as yet its efficacy is not sufficient to warrant any guarantee of its power. The only sure safety lies in not coming within the range of the plague's infectious influence; in other words, in quarantine.

The plague goes hand in hand with famine, and just now finds a favorable ally in the failure of the crops in India. The disease itself is, therefore, taking on new vigor in its original haunts. In the Bombay Presidency alone it is slaughtering its victims at the rate of 2300 per week, and in August last it had already claimed a grand total of 164,083 deaths. There has occurred also recently a recrudescence of the disease at Alexandria, at Samarcand, and in the Island of Formosa. During the last few months it has followed the lines of commerce in various directions and spread over a wide territory. In addition to Hong Kong, it has invaded three important posts in China, and an equal number in Japan. It has crossed the Indian Ocean to the islands of Mauritius and Mozambique, and has also reached the East African coast at Delagoa Bay and the French Ivory Coast Colony. It has reached Busliore in Persia, Djiddah in Arabia, Kolobovka in Astrachan on its way to Russia, and even been carried to St. Petersburg, where two cases have been reported, while the points nearest to us that have been infected are Oporto and Lisbon in Portugal. With its appearance at a locality on the Persian Gulf and at Kolobovka in Astrachan, a direct route is opening through the Ottoman Em-

pire for invasion of Europe along that most dreaded line of traffic. This recrudescence demonstrates that the disease has gained not lost in virulence and in epidemic power.

The widespread invasion proves conclusively that existing quarantines are inefficient. The characteristic cycles through which the disease passes in its complete development, render it a most treacherous foe. Its initial period is characterized by slight virulence, rendering it difficult of recognition; then follows a serious outbreak with great fatality; then a period of subsidence invariably followed by renewed virulence and fatal activity. Ten days has been set as the limit of incubation, but it is recognized now that the bacilli may be carried in various ways, as under the finger-nails, and for even a longer period before inoculation, and the duration of quarantine therefore remains indefinite and insecure.

It is hardly time to speculate upon what direful havoc would be wrought among the slum and tenement-house population of our great cities, and the negroes of the South if once this insidious disease should pass our borders. Of the possibility that it may reach our shores at any day there is no doubt. Our safety lies in meeting it at our maritime quarantine with certainty, with unflinching firmness, and most destructive methods. That the members of the Marine Hospital Service and other quarantine officials are alive to the situation is evinced by the fact that some of their most expert diagnosticians have gone abroad to meet the invasion at various points of its approach, to become familiar with the symptoms of the disease, and to insist upon proper inspection of all merchandise destined for these shores.

THE BRITISH EMPIRE RESPONSIBLE FOR THE PLAGUE.

In a letter to the *British Medical Journal* of September 16, 1899, Dr. Wilfred Watkins-Patchford, late Special Plague Medical Officer in the English Service, and author of the Report on Antiseptics issued at Bombay last year, makes the following rather startling protest against the position that has been taken by the British Government in India with regard to the study of plague and the investigation of the best means for its prevention:

The unique opportunity afforded to the Indian Government of systematic research into the disease by scientists of accredited standing has been neglected. I unhesitat-

ingly affirm that scientific research into the plague has not been in any way encouraged by the authorities; the problem has been dealt with on the lines of a civil misfortune to our Indian dependency, while the momentous interest which the disease has for the whole human race has been left to the consideration of a few private individuals.

The accusation is so serious a one that we have waited for the succeeding issues of the English medical journals before commenting on it. It seemed almost a foregone conclusion that some attempt at least would be made to explain away the serious negligence on the part of the British Indian authorities, so frankly put in accusation by one who, it is to be presumed, is in a position to know. The explanation has not been forthcoming. A feeling has been growing in the medical world for some time that the plague might have been kept more thoroughly under control in the East if the British Government in India had been more ready to use all the resources that modern hygiene and sanitation had placed at its command. The civilized world has a right to demand that the British authorities in India shall omit nothing that can help to lessen the continual danger from the plague, which has now become a continual, harassing threat.

We realize the difficulties of the situation, and have called attention in our columns more than once to how seriously the Government's attempts at enforcement of sanitary measures are hampered by the ignorance, and still more by the religious fanaticism of the people. We cannot help thinking, however, that the existence of plague in India has come to be looked upon by the British authorities in India too much as a matter of course.

There is "the white man's burden" to bear for the world in this matter, and no routine regulations or ordinary methods a little more strictly applied will suffice for this serious juncture. Special measures and special men are required. Sporadic efforts at times of awful mortality, to be intermittent when the well-known remissions of plague virulence occur, will never suffice. Portugal has been seriously arraigned because plague existed in that country for nearly two months before its official announcement. We fear that there would be many and more serious faults than this to be laid at the door of the British Indian Government if the details were but known.

What Dr. Watkins-Patchford demands by implication must be insisted upon by civilized nations. The problem must not be dealt with merely on the lines of a civil misfortune to the Indian dependency, but England must realize the momentous interest which the disease has for the whole human race, and her plans for its complete eradication must be on a corresponding scale. The British Empire owes this to herself if she is to justify her mission to the world as the great civilizer and fosterer of progress.

THE NEWER THERAPY OF GONORRHEA.

It was the discovery of the specific organism of the disease by Neisser two decades ago and its subsequent more elaborate exploitation by Bumm that gave an important impetus to the study of the course and effects of gonorrhea. The medical mind was slowly forced to a realization that perhaps this malady, which in spite of its distressing nature had always been regarded as a matter of merely passing interest and to be treated lightly in a quasi-jocular way, might be a much more serious thing than had been supposed, and this uneasy suspicion was gradually succeeded by the absolute conviction that for gravity of consequences and variety of possible sequelæ its capacity was almost unlimited. And when the gynecologists took up the cry and denounced the infection as a two-edged sword which often cut deepest in innocent flesh, and after the lapse of years could produce in an unsuspecting wife consequences out of all proportion to the initial severity of the trouble in a long-ago erring husband, the full import of the situation was recognized and the time-honored methods of treatment began to be abandoned and search made for surer and more definite remedies. The synthetic chemist has not been slow to respond to the demand, and the last half-dozen years have seen produced and extravagantly advertised as many so-called specifics—kaleidoscopic combinations each of them, in which silver is the central and active constituent, surrounded by picturesque graphic formulæ of albumins, nucleoproteids, diethylamins, etc., added with the object of diminishing its irritating properties and increasing its penetrating power.

Kopp of Munich (*Münchener Medicinische Wochenschrift*, August 1 and 8, 1899) presents a careful com-

parative analysis of the most important of these preparations and though the observations of a single investigator are never conclusive, especial importance attaches itself to his results inasmuch as they were obtained from perfectly fresh first attacks and exclusively from private patients, in whom it was possible to follow definite lines of treatment with exactness, rather than from dispensary patients, notoriously hard to control.

Argentamin (ethelyndiamin silver phosphate) was found to be markedly irritating even in solutions of a strength of 1 to 4000; decidedly more so than the usual silver nitrate solutions. No permanent disappearance of the gonococcus could be effected and no cures resulted from its unaided use. A growing toleration for it, permitting its application in more concentrated form, was not observed.

Argonin (silver casein). Although less irritating than silver nitrate, in most cases it is inferior to the latter in efficacy. Up to a strength of four per cent. it usually does not irritate though sometimes even two-per-cent. solutions cause symptoms requiring its abandonment. Its expense also is against it, and its sphere of usefulness seems to be limited to those cases in which it is essential to avoid irritation as much as possible and in which the use of silver nitrate, therefore, is not permissible.

Protargol (silver protein). Considerable confusion has arisen as to the merits of this preparation, owing to the fact that prior to June, 1898, samples of varying composition and strength were on the market. Since then the character of the remedy has been constant. Its use presents the feature, agreeable to the patient, of causing little irritation and a rather speedy checking of the discharge, though the discomfort attending the daily thirty-minute injections recommended by Neisser perhaps more than offsets these factors. On the whole it presents no decided advantages over silver nitrate.

Largin (silver protalbin). Although distinctly not to be considered as an abortive, still the use of this drug in the early stages of the infection seems to shorten its duration. Usually it irritates about as much as silver nitrate, and possesses no marked superiority over it.

Itrol (silver citrate). This preparation, so strongly advocated by Credé, seems to possess real merits. Its cheapness and the dilution of the solu-

tions employed (0.05 to 200) are in its favor; its disadvantages are the difficulty of preparing aqueous solutions and the rapidity with which these decompose. It is also much commended as having great penetrating power though the extent to which this is true is probably more limited than is generally supposed. Its undoubtedly strong bactericidal powers, however, and the fact that complications such as posterior urethritis, etc., seem to occur but seldom with its use are sufficient grounds for recommending it to a prominent place in gonorrhreal therapy.

Hydrargyrum oxycyanatum. The urethral mucous membrane evinces a considerable toleration for this reagent, solutions of 1 to 3000 or 1 to 1000 having produced no unpleasant results. In general it resembles protargol in its action and has no greater claims to specificity than its predecessors.

Janet's irrigation method with potassium permanganate has proved disappointing, in the author's hands, both as an abortive agent and in the treatment of the acute form of the disease. In chronic and posterior urethritis, however, it is most valuable and satisfactory; if gonococci were still present in the secretion silver nitrate, 0.2-0.5 to 1000, was used; after their disappearance potassium permanganate, 0.3 to 1000.

In short, it appears that though these various preparations may each have specific points of excellence, none of them can be designated as a specific for the disease; and though some, especially protargol, itrol, and the oxycyanate of mercury, are distinctly less irritating than silver nitrate they do not seem destined to drive that hardworked reagent from urethral fields.

Although to the eye of the stern moralist the dread of a possible infection presents a most potent incentive to continence, still under existing social conditions, and in dealing with a malady so far reaching in its consequences as this no means of restricting its spread should be neglected. Indeed it is quite worthy of belief that the universal dissemination among the laity of the fact that a few drops of a twenty-per-cent. solution of protargol in glycerin, instilled into the fossa navicularis after a suspected coitus, will secure almost perfect immunity from infection would react only in a beneficial manner on the welfare of the race. It is at least an experiment well worth the trial.

ECHOES AND NEWS.

Women Physicians in England.—In London and the provinces there are no fewer than thirty-seven institutions officiated wholly or partially by women physicians.

Dr. Clark Appointed Professor of Gynecology in the University of Pennsylvania.—Dr. John G. Clark, formerly of Johns Hopkins University, has been appointed professor of gynecology in the University of Pennsylvania, to succeed Dr. Charles B. Penrose, who resigned at the close of the last term.

A Doctor's Bequest to the Harvard Medical School.—It is announced that Dr. Galvin Ellis, Harvard class of '46, who died in 1883, and whose will has just been probated, left to Harvard University \$140,000. Most of this sum is to be devoted to the education of his descendants, and also to the maintaining of three professors at the Medical School.

Inspection of Immigrants.—Dr. Doty of the Quarantine Station in New York harbor sailed for Europe on October 10th to consult with foreign officials, chiefly at Bremen, concerning an improvement in the present methods of excluding, at the point of embarkation, emigrants who are infected with smallpox, typhus, or typhoid fever.

The Rat-trap as a Plague Cure.—According to a despatch from London, considerable attention was attracted to the recent meeting of the School of Tropical Medicine, at which Dr. Manson declared that cholera is water-borne, malaria mosquito borne, and the plague rat borne, and tersely defined preventives against these scourges to be "tea-kettle, mosquito-net, and rat-trap."

Larkspur Poisoning.—Two women, who were patients at the Loretto Home, New York City, died on October 7th of larkspur poisoning. The drug was in solution in wood alcohol for the purpose of destroying vermin. These unfortunate women came under treatment to be cured of alcoholism. They drank the solution because it smelled of alcohol and without any knowledge that it was poisonous.

Bowdoin's Clinical Work at Portland.—Of special interest, because it is the second important medical school that is to have its theoretic and its practical teaching in different places, is the following announcement from the faculty of Bowdoin Medical College: The medical students of Bowdoin College will receive instruction during their last year at Portland, where suitable buildings are now being erected, and where they will have improved clinical facilities. After 1900 the course will be four years in length, the first two years being spent at Brunswick, and the second two years at Portland.

Jews Aid a Catholic Hospital.—St. Vincent's Hospital, a Catholic institution situated at Norfolk, Va., was burned recently, and several lives were lost in the fire. Money

to aid in rebuilding the hospital is being raised by popular subscription. The Ladies' Hebrew Benevolent Association of Norfolk contributed \$100. This incident is not unlike one which occurred several years ago in this city. A Presbyterian church in Twenty-third street was burned down. The use of the beautiful Synagogue at Forty-third street and Fifth avenue was offered this congregation. The offer was gratefully accepted, and for many Sundays these Christians worshiped there. Truly, if the world is not growing better it is at least becoming more tolerant.

A New Medical Directory.—“The Medical Directory of New York, New Jersey, and Connecticut for 1899,” edited by Dr. E. Eliot Harris, under the auspices of the New York County Medical Association, has just made its appearance. It is a handsome volume of nearly 900 pages, and contains the names of 19,161 registered physicians, dentists, and pharmacists, in addition to the by-laws of the Medical Associations and Societies of the three States named, and the laws relating the practice of Medicine, Dentistry, and Pharmacy, including the New York Dispensary Law. The book reflects great credit upon those having its publication in charge. Copies may be obtained from Dr. O. C. Ludlow, 2309 Seventh avenue, New York City, at \$2 each.

“*Divine Healer*” to Blame.—Dowie, the “Divine Healer,” Christian Scientists, and all others of that ilk, are held responsible by Chief Inspector Herman Spalding of the Health Department of Chicago for the present prevalence of scarlet fever and diphtheria among the school children of that city. “When we are notified,” said he, “of a case of this character we can handle it without any great trouble, but when it is kept secret it is impossible to tell what the result will be and where it will end. The peculiar belief that teaches us to close our eyes and call upon the Lord to do the work of the doctor and sanitarian has helped ignorant parents in the work of spreading preventable contagious diseases. The beauties of this method of treatment are to be found only in the wealth of flowers placed upon little graves.”

The Yellow-Fever Situation is decidedly improved. The cold weather at the beginning of last week seemingly destroyed to a large extent the contagiousness of the germs of the disease. At the end of last week one new case was reported in New Orleans and there were no deaths from the disease. There was a slight recrudescence of the disease at the beginning of the present week, two new cases having occurred on Sunday and two more on Monday. The fever is very mild in form. As we go to press some ten patients in all are under treatment in that city. In Key West, while the improvement was not so radical as in the Mississippi region because the cold had not been so noticeable, there was a marked falling off in the incidence of the disease, less than half as many cases per day being reported as during the previous week. The disease retains its mild, non-fatal character and the number of deaths is less than 12 per cent.

of the new cases reported. It is believed by the sanitary authorities now that the end of the epidemic is in sight.

A Hotel Syndicate and a Scientific Association.—Science is our authority for the following statement. According to certain letters that appeared in the London *Times* shortly after the recent meeting of the British Association for the Advancement of Science at Dover, it appears that an English Syndicate engaged in advance all the hotel accommodations in Dover for the week of the meeting and relet them to members of the Association at extortionate rates. Verily our English cousins are advancing in the ways of this world. Suppose something like this should happen in America what a virtuous howl of indignation would it not be greeted with? What diatribes would we not have on the contemptibly sordid commercial spirit that has invaded everything American? There is a lesson in it all for scientific societies and especially medical societies since they meet so frequently and their meetings are as a rule so well attended. It would seem to read about as follows: Do not accept invitations from the smaller towns, unless assurance is given that the presence of so many members shall not be made the opportunity to exploit them by the unsympathetic townspeople.

The Scientific Spirit—The excellent paper which Sir Michael Foster, the president of the British Medical Association, read on September 13th, on the occasion of the visit of the members of the French Academy of Sciences at Dover, contained the following passage: “As I have already urged, no feature of scientific inquiry is more marked than the dependence of each step forward on other steps which have been made before. The man of science cannot sit by himself in his own cave weaving out results by his own efforts, unaided by others, heedless of what others have done and are doing. He is but a bit of a great system, a joint in a great machine, and he can only work aright when he is in due touch with his fellow-workers. If his labor is to be what it ought to be, and is to have the weight which it ought to have, he must know what is being done, not by himself, but by others, and by others not of his own land and speaking his tongue only, but also of other lands and of other speech. Hence it comes about that to the man of science the barriers of manners and of speech which pen men into nations become more and more unreal and indistinct. He recognizes his fellow-worker, wherever he may live and whatever tongue he may speak, as one who is pushing forward shoulder to shoulder with him toward a common goal, as one whom he is helping and who is helping him. The touch of science makes the whole world kin.”

The Improvement of Havana.—On this subject the *Scientific American* said editorially last week: “General Ludlow's report as commander of the Department of Havana, and as military governor of the city of Havana, covers the period of our occupation up to September 5th. It shows that the problem of reorganizing the government of Havana and the uplifting of the city from the filth and neglect in which the Spaniards left it, has been

taken in hand with characteristic system, energy and thoroughness. The physical condition of the city at the time of the Spanish exodus was simply shocking. Starvation and death were matters of every-day occurrence. Neglect of the most common sanitary precautions had raised the death-rate to alarming figures, which exceeded greatly the all too heavy prevailing death-rate of the city; and the inevitable restlessness and lawlessness following the removal of the Spanish troops were everywhere conspicuous. While much remains to be done and many problems are awaiting solution, there is just cause for congratulation from the fact that the death-rate, for instance, in June, July, and August was lower than the average for the same months during the past nine years, not even excluding the two calamitous years of the war, 1897 and 1898; while the indications are that the total number of deaths for the current year will be only half the number during 1898. The deaths per month during 1898 were only 162, which is the lowest since 1890."

Female Army Nurses Wanted.—Dr. Anita McGee, United States Army, is at present visiting Mrs. Mary H. Willard, the president of the Metropolitan Trained Nurses' Club at 104 West Forty-first street, and is anxious to meet and talk to any one who wants to be an army nurse. Dr. McGee states that since the beginning of the war there have been 1700 nurses in the service. There are now 200 in the service and 200 on the waiting list. Army nurses, who must be graduates of regular training-schools, have their living and traveling expenses paid, a yearly thirty days' furlough, and when assigned to duty in this country \$40 a month and when assigned to duty elsewhere \$50 a month. These salaries include lodging and rations. Each nurse wears a beautiful uniform, a description of which is beyond the writer's capabilities. There is a chief nurse for each hospital, whose pay depends upon the number of nurses under her. If less than ten, she gets \$10 a month extra. If more than ten her wages are increased \$25 a month. The nurses are assisted in their work by the men of the hospital corps, who are not trained nurses. A new hospital, states Dr. McGee, is building at Manila, which will be the largest army hospital owned by the United States. It will accommodate 2000 persons. The hospital used at present was meant to take care of 500 sick and wounded soldiers, but there are now more than 1500 in it. It is in charge of Surgeon-General Woodhull, to whom Dr. McGee accords high praise. Our next largest hospital is at Presidio at San Francisco, which will accommodate 1000 persons.

Supreme Court Decision as to Medical Consultants.—A decision rendered October 4th on this subject by the Appellate Term of the Supreme Court of New York State is of special interest since it reopens a case. A lady stopping at a hotel having suffered an accident to her elbow, the physician usually summoned by the hotel manager was called to treat her. He was unknown to both the lady and her husband, but was permitted to remain in charge of the case. He summoned a consultant who came altogether six times. The bill of the hotel physician was \$70, that of the consultant \$175. The pa-

tient's husband refused to pay and on suit judgment for the amount was given against him in the Municipal Court. He carried the suit to the Supreme Court. A reversal was directed by the Appellate Term, in an opinion per curiam, Presiding Justice Freedman and Justice Leventritt stating that justice would be best promoted by a retrial, "so that the proof of the value of the services of the plaintiff and of the consulting surgeon might be more clearly established." Justice McLean also gave an opinion in favor of reversal, saying in conclusion: "There was no justification by custom or otherwise in plaintiff's employment of a consultant without a frank and full statement of the situation to the patient and the defendant, and learning their wishes concerning the professional persons to be brought in. There cannot be properly applied to the facts shown here any custom multiplying ordinary professional charges five or ten times under the shield of a layman's ignorance, because it is subversive of justice that charges should be so largely increased by a custom not made known at all to the patient or to her husband."

The whole matter would seem to be the result of a real or pretended misunderstanding on the part of the defendant of the status of a consultant in a case of this kind. It would be interesting to see with what short shrift a similar case involving a legal consultant would be disposed of by their honors.

The Plague Situation generally is about as it was, certainly no better. Though the daily papers have ceased entirely their reports as to the matter, and popular interest in it in other countries has died out, the plague still continues to be mildly epidemic at Oporto. About a dozen cases occurred during the last week in September. Altogether about 100 cases with about 40 deaths have occurred in Portugal. After the recent fall in the temperature the number of cases increased. The rumor that cases of the disease have occurred in other parts of the Peninsula is denied. Arrangements have been made to allow the factories to begin work again, and their manufactures will be permitted to leave Oporto after a careful disinfection. The favorable report as to the effect of Yersin's plague serum that we quoted last week has been confirmed by further experience. No deaths have occurred in any cases that were treated with the serum, though the death-rate has been, as noted above, about forty per cent. during the epidemic. The situation in India is not very reassuring. We clip the following notes from the last issue of the *British Medical Journal*: "In the city of Bombay eighty-nine deaths from plague occurred during the week, September 19th. Throughout the Bombay Presidency the numbers show little change. The last news from Poona was to the effect that a sudden drop in the number of plague cases had occurred, and, from being at the rate of over 100 cases a day, the number fell to *nil* within a week. This week the report is that the condition of affairs in Poona and district has much improved, but, on the other hand, plague is stated to be increasing among Europeans. This is but a repetition of the history of plague in every town; during the first outbreak it is quite exceptional for plague to attack Europeans, but during a recurrence Europeans contract

plague in increased numbers, although in no Asiatic city have they suffered severely. Forty-four deaths from plague occurred in Calcutta during the week ending September 19th. Calcutta affords perhaps the best example of the occurrence of plague in a chronic as contrasted with the epidemic form. There has been no scaring epidemic of plague in Calcutta, but for well-nigh eighteen months deaths from plague have persistently occurred." The report that plague was occurring in Portuguese East Africa is confirmed. The news comes from Lourenco Marques, a town that, owing to the shipments of munitions of war to the Boers, has become well known through the daily press. Twelve cases believed to be plague have occurred at Magude, a suburb of Lourenco, and two of them were fatal. The village of Pombacas has been isolated and many dwellings burned. From Russia a note of alarm is once more sounded. Prince Alexander of Oldenburg, president of the Plague Commission, has recommended the municipal authorities to establish night camps and huts capable of accommodating 1000 persons in view of the outbreak of plague. We reported the occurrence of some cases in Turkey in Asia last week, and now it is announced that the whole of the Syrian coast has been placed under quarantine because of reported cases of the disease in the seaports. With regard to Asuncion, Paraguay we clip the following from the *British Medical Journal* for September 30, 1899, as we have no definite details of later date: "The sanitary authorities of Montevideo, Uruguay have received a report from the special commissioners sent to Paraguay to investigate the reported outbreak of plague in Asuncion, to the effect that 'the symptoms displayed in the cases in question confirm beyond all doubt the suspicions entertained as to the character of the disease. We presume that, in the belief of the commissioners, plague does exist at Asuncion. As this is the first time plague has ever visited America, and as the isolated spot in which it has developed is some 600 miles from the sea coast, we must still hesitate to accept the existence of plague there as being conclusively proven.'"

MEDICAL MATTERS IN PHILADELPHIA.

MEETING OF THE COLLEGE OF PHYSICIANS—ARTERIO-VENOUS ANEURISM OF SCARPA'S TRIANGLE—ESTATE OF THE LATE DR. WILLIAM PEPPER—HOSPITAL OF THE MEDICAL EMERGENCY CORPS—ANTICIPATING ANOTHER SMALLPOX EPIDEMIC—OPENING EXERCISES OF JEFFERSON MEDICAL COLLEGE, THE MEDICAL DEPARTMENT OF THE UNIVERSITY, AND OF THE MEDICO-CHIRURGICAL COLLEGE—DR. ASHTON APPOINTED PROFESSOR OF MEDICINE.

PHILADELPHIA, October 9, 1899.

AMONG the papers read at the first fall meeting of the College of Physicians of Philadelphia, was an interesting communication on the subject of "Arteriovenous Aneurism of Scarpa's Triangle," presented by Dr. W. Joseph Hearn. A brief abstract of the history of the case is as follows: The patient, a well-developed negro, of forty years, and presumably without a previous history of syphilitic infection, began five months

ago to notice the presence of a small growth about the size of an English walnut in the central portion of Scarpa's left triangle; the tumor rapidly increased in size, until at the time of the operation it had attained approximately the size of a large cocoanut, and was the cause of much suffering and discomfort to the patient. The tumor was felt below the skin as a somewhat conical, smooth, elastic mass, distinctly pulsating with each heartbeat, and being the seat of a plainly audible bruit. No pulsation of the vessels of the leg below the tumor could be detected. The first step in the operative procedure was the ligation of the external iliac artery through Abernethy's incision. An effort to expose the femoral below the site of the tumor was then made, but temporarily abandoned. The tumor was then incised, and a large quantity of blood turned out, severe hemorrhage ensuing from the bottom of the cavity thus opened. This bleeding was controlled temporarily by firmly packing with gauze, but again recurred on the removal of the packing, the second hemorrhage being finally controlled by digital pressure both above and below the cavity. The artery was then ligated at two points, above and below the site of the hemorrhage, and the femoral ligated in Hunter's canal. Bleeding still continued, and on removal of the remains of the aneurismal sac the vein was seen to open into it, so it became necessary now to ligate the femoral vein above and below the point of bleeding, in order to control the hemorrhage. The wound was drained with iodiform gauze, and closed with silkworm-gut sutures. The hemorrhage, during the operation, became so alarming that it was necessary to give the patient intravenous transfusions of normal saline solution to the extent of three pints of the fluid. The patient made an uninterrupted recovery, and was discharged from the hospital, cured, within seven weeks after the operation.

Concerning the etiology of the condition in this case, Dr. Hearn remarked that the only causal factor appeared to be the nature of the man's occupation. The patient, a carter, in loading his cart with earth, had always been in the habit of using a short-handled spade, the handle of which he habitually pressed against his thigh over Scarpa's left space, to drive the blade of the tool forcibly into the earth. Often he was compelled to exert the entire weight of his body in accomplishing this, so that continual and forcible pressure over the situation of the tumor was made for a long period. The speaker considered that the cause of the involvement of the vein in the aneurism was not the traumatism, but rather that it was due to erosion of the walls of the vein from pressure by the distended sac of the aneurism, and to inflammatory exudate matting together the walls of the vein and the sac of the tumor. Dr. Hearn expressed the view that the ligation of large vessels for aneurism is not to be usually considered as fatal an operation as generally thought—in his hands it had been uniformly successful, he never having had a death, which might have been partly due, he said, to the fact that his experience in these operations had been limited to the days of antisepic surgery. The point of chief interest in this case is that the collateral circulation was sufficient to prevent gangrene of

the limb, notwithstanding the fact that both artery and vein were ligated above and below Scarpa's space. In conclusion, the speaker expressed his preference for the use of silk ligatures in such cases, having always employed this material to the exclusion of catgut.

The first account of the estate of the late Dr. William Pepper has been filed by his executors and trustees. The total value of the estate amounts to more than three-quarters of a million dollars. It will be recalled that Dr. Pepper devised \$75,000 to the University of Pennsylvania as an endowment fund to the William Pepper Clinical Laboratory.

The Philadelphia Medical Emergency Corps has opened a hospital on the grounds of the National Export Exposition, the building being situated in a prominent part of the main avenue, and is admirably adapted for the purposes it is intended to fill—the treatment of medical and surgical emergency cases occurring among visitors to the exposition. There are two large rooms for patients; one, a ward of four beds; the other, an operating-room and dispensary, and a drug-store. A bicycle-ambulance is to be added to the equipment of the hospital in a few days.

The Department of Public Safety, through its chief, Director English, has requested from Councils an appropriation of \$25,000, to be used for repairs and additions to the Municipal Hospital. The authorities assert that they anticipate another smallpox epidemic this winter, and that in its present condition of ill-repair and of antiquated equipment it will be impossible to properly house and care for the victims at the Municipal Hospital.

Under the most auspicious circumstances, in the presence of a large and distinguished audience the new college buildings of the Jefferson Medical College were formally opened and dedicated on the evening of Tuesday, October 2d. The opening exercises were held in the large amphitheater in the new Walnut street building, the proceedings of the evening being of the character of an ovation, in celebration of the completion of the new laboratories and college buildings.

The exercises were opened by a short address by the President of the Board of Trustees, Ex-Minister to Italy William Potter, who reviewed the recent improvements made at the institution, and spoke of future changes which he hoped the friends of the college would, by their generous aid, make possible. At the conclusion of his address, Mr. Potter introduced the presiding officer of the evening, Dr. Thomas Addis Emmet of New York, of the class of '50. After the opening prayer by the Rev. J. Andrews Harris, D.D., Dr. Phineas L. Connor of Cincinnati was introduced, and made the principal address of the evening.

Dr. Connor, in opening, remarked that "The years of Jefferson cover more than one-half the period in which there has been collegiate training in America, and when, in 1825, McClellan, Eberle, Smith, and their colleagues began their labors, medical teaching in the few existing schools was hardly other than supplementary to private instruction in the offices of preceptors. Prior to 1813 there were but two medical schools in New England, four

in the Middle States, and not one south of the Potomac, or west of the Alleghanies."

In conclusion the speaker referred to the ideal methods of clinical training now in vogue in all metropolitan teaching-hospitals, spoke of the attitude of kindness and sympathy which the student should uniformly bear toward suffering humanity, and invoked the personal influence of every undergraduate present to continue in the good work pursued by Jefferson graduates during the last three-quarters of a century.

Surgeon-General Sternberg, United States Army, was then introduced, and made a brief address dealing with the pioneer days of bacteriology, and of the wonderful practical advances made during recent years in this branch of medicine. He then spent an interesting fifteen minutes in the discussion of the peculiar advantages enjoyed by the present commissioned medical officers of the army, as compared to their predecessors thirty years ago.

At the conclusion of the exercises the guests of the evening were shown through the various departments of the new college building, following which a reception to the alumni was held in the library. Early in the evening President Potter gave a dinner at the University Club to the distinguished guests, among whom may be mentioned Surgeon-General Sternberg, Drs. Connor and Emmet, Provost Harrison of the University of Pennsylvania, Talcott Williams, LL.D., and Mayor Ashbridge.

The opening exercises for the session of 1899-1900 of the Medical Department of the University of Pennsylvania was held October 2d, in conjunction with those of the Department of Dentistry and of Veterinary Medicine. Provost Harrison delivered the introductory address, and the deans of the various departments delivered addresses to their respective classes of students.

The session of 1899-1900 of the Medico-Chirurgical College began October 2d, the opening address being delivered by Dr. John V. Shoemaker. An address on "Reform in Medical Education" was also delivered by Dr. Charles W. Burr.

Dr. Thomas G. Ashton has been appointed clinical professor of medicine in the Woman's Medical College of Pennsylvania.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

MESMERIC HEALER IN LONDON—SPLIT IN THE "PECULIAR PEOPLE"—JEWISH MUNIFICENCE TO HOSPITALS—FOOD POISONING AT ALDERSHOT—FATAL FALL OF A SOMNAMBULIST—MEDICAL VOLUNTEERS FOR THE TRANSVAAL—DOCTORS AND NURSES FOR PLAGUE DUTY IN INDIA—AN "ELECTRIC RETINA"—A MEDICAL PRESIDENT-ELECT FOR THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE—DOCTORS AND UNDERTAKERS AGAIN.

LONDON, October 1, 1899.

WE speak of the age of superstition as over and gone, but if we want to get a whiff of the Dark Ages, all we need do is to step into the air of a sick-room. A "mesmeric healer" has been here the past few weeks in full

blast in a fashionable street and attracting the most distinguished personages. The magic of his eye is all the remedy employed by him and he accepts no fees for his services but—there is a plate at the door where grateful patients may relieve their feelings in cash deposits. These fleecers know their dupes to the very tails of their P's and Q's. Any one who is fool enough to believe that he can be cured by the glance of an eye is ready to believe that he could be blighted by the same agency and he will deposit liberally against such a contingency. To think of evading the law against unqualified practitioners and making your patients "sure pay" at one stroke! It takes genius to be a sharper and if we honest men don't succeed, it's not because we're honest but because we're stupid. We'd make no better success as rogues, although we love to console ourselves with the thought that we would.

On the other hand, a cheering ray of progress and common sense breaks through the fog of superstition where we least expect it. Those "Peculiar People" who killed Harold Frederic, with his own able assistance, and who are continually vexing the souls of the judges by appearing to answer to a charge of manslaughter for letting a child die, are about to reduce their already small numbers by a "split in the church." One of their leading elders named Grey, in a lucid interval was recently guilty of the heinous offense of calling in a physician to relieve the sufferings of his child. For this lapse into sin he was promptly "dealt with," but stiffened his neck and said he'd do it again under the circumstances and the church might go hang. Whereupon nearly half the church endorsed his sentiments and now each half is trying to turn the other out. Even religious convictions can't quite waterproof men's brains against common sense and decency nowadays and this body of Peculiar People (long may they remain so by contrast!) are now doing openly and clumsily what the Christian Scientists have been doing privately and with artistic mendacity for ten years past. Their faith is so pure and high that they must relapse from it occasionally to keep in touch with it at all and each time is to be the last and "don't count" like Rip Van Winkle's dram.

It is a happy and appropriate coincidence and typical of a most prominent side of the Jewish character that just as one half of the civilized world is denouncing and abusing the Hebrew, one of the West of England hospitals should be presenting to a Jewish baronet, Sir Massey Lopes, his portrait painted in oils, as a memorial of long-continued service to the hospital, and gifts to the amount of nearly \$100,000. Among all the numerous things that may be said for and against the Hebrew, the medical profession has nothing but good to contribute. In whatever other respects he may be lacking, he is never so when the call comes from the sick and afflicted. To his own people he is kindness itself but his charity is far indeed from ending there and when a new ward is to be built, or a hospital deficit met, we medical men well know that in their direction one may turn with certainty of a generous response. Scarcely a Jewish community of five hundred souls is to be found in any of our English or

American cities which does not count among its members a man of the type of Moses Montefiore and Baron Hirsch! Men who would fight a business deal down to the last fraction of a cent, "upon instinct," simply because they couldn't help it, they must play the great game in its full rigor, but whose purse-strings are slackened at once to the cry of destitution or suffering.

Some forty soldiers at Aldershot have been suffering from a severe form of food-poisoning which culminated in the death of one of them. The attack is believed to be due to some canned fish, sardines and salmon, which the men had purchased at canteen and of the licensed vendors about the camp. The precise brand of goods has not yet been identified but the military authorities have issued a rather sweeping and "shot-gun" order prohibiting the sale of any canned goods whatever at these stands or of any pies not baked in the camp kitchens.

One hears so much of the curious old belief that sleep-walkers can come to no harm during their somnambulistic vagaries, no matter how dangerous the places they may venture into, that a clear proof to the contrary is not without interest. An inquest has just been held upon the body of an unfortunate soldier, who, while walking in his sleep is believed to have found his way out on to the roof of the barracks. Next morning he was found in the barrack square with a fractured skull and spine and died in a few hours.

The strong feeling in regard to impending trouble in the Transvaal is affecting even the medical profession. The surgeons attached to the volunteer regiments, corresponding to our militia, have been approached by the Government with reference to their willingness to enlist for service in South Africa in the event of war. It is stated that a majority of them have replied in the affirmative.

So obstinately does the bubonic plague hang on in Bombay that the India Office has just secured and is about to send out a fresh detachment of twenty physicians and thirty nurses for plague duty in India. Many of these though young have seen plague service before and so go thoroughly forewarned and prepared to do the best possible both for others and for themselves.

A good deal of attention is being devoted in the lay press here to the claims of an alleged Russian scientist, Dr. Stiens, to furnish sight to the blind by electricity. We have learned through numerous experiences to be distinctly suspicious of the wonders which are proposed to be wrought for the ailing simply "by electricity." This bright force is a sort of modern philosopher's stone and its name a word to conjure with, to the multitude. Stiens does not condescend to give any details or explanations of principle, whatever, which is not reassuring, but merely states that he can by passing a certain current through a man produce in him a sort of "electric eye," through which the brain can perceive the light rays directly without any further need of either retina or optic nerve. How this is done is as yet a mystery, also whether it is done at all or not. Several guileless reporters have been blindfolded and then made to see objects through the bandages and through wooden

screens or say they have, and one newspaper scientist is sure the X-rays are at the bottom, because they can penetrate linen bandages, forgetting that the retina cannot perceive them in any case. There is, of course, a bare possibility of truth about the claim, inasmuch as the light-rays which fall upon the retina are transmuted in some way for transmission to the brain, possibly into some electrical equivalent. At all events they do not pass along the optic nerve as light-rays, and if M. Steins' apparatus can transmute the light-rays into their optic-nerve equivalents, then it may be possible to see without a retina. But it is a very large "if."

It really looks as if medical men were beginning to get their fair share of honors, scientific ones at least. Here are three members of the profession in succession in the presidential chair of the British Association for the Advancement of Science with only a year between. Lord Lister, Sir Michael Foster, the present incumbent and Sir William Turner the president-elect for next year. Sir William Turner is best known abroad as an anatoomist and anthropologist and for many years the guiding spirit of the great medical school of the University of Edinburgh. Here he is also intimately known to and beloved by the profession as President of the General Medical Council, the Executive Committee and Senate of the British Medical Association.

The war upon secret commissions in the medical profession is still raging in the columns of both the lay and medical press. The profession not unnaturally bitterly resents collusion with undertakers and consequent indifference to or even interest in the death of their patients being held up as a sample of what not only exists but may become dangerously prevalent if the "commission habit" be not checked. It is justly felt that such an accusation as this, based simply upon the allegations of one druggist and one optician, that physicians expected commissions from them, neither of the accusers daring to give their names, is hardly little short of monstrous from an ex-judge who is supposed by his position to have some knowledge of the laws of evidence. Sir Edwin Fry is out in another long letter to the *Times* in which he reiterates his former nameless depositions as adequate "evidence;" not, he now admits, for condemnation or even general accusation but for "inquiry." How anybody is to inquire into charges to which neither dates, names or particulars of any sort are attached he does not vouchsafe to say.

There is no question that Dr. Saundby's unfortunate statement that after investigating such charges as it could hear of the Medical Council found that in no case were commissions offered in advance as inducements to certain lines of action but "only as presents for favors conferred," leaving it to be implied, what he was very far from meaning, that the acceptance of "presents" was a comparatively trivial and venial affair, has made an unfavorable impression. And it also furnishes Sir Edwin Fry with the fresh ammunition of which he was sadly in need.

The extravagance of Sir Edwin's first insinuation that there was serious danger of doctors letting their patients

die in order to secure heavy "presents" from undertakers, has defeated his own purpose and cast general discredit upon the whole crusade. The public takes but little interest in the matter and most of the letters in the newspaper are from medical men, most of them treating the insult with the silent contempt which it deserves, but frankly admitting that there are numerous little financial collusions as to drugs, mineral waters, wines and occasionally instruments and appliances, not in any way criminal, scarcely even immoral, but undignified and undesirable.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held May 4, 1899.

THE President, WILLIAM H. THOMSON, M.D., in the Chair.

The first paper of the evening, entitled

ANEMIA AS OBSERVED IN GYNECOLOGICAL PRACTICE WITH SOME PRACTICAL SUGGESTIONS AS TO DIAGNOSIS AND TREATMENT

was read by DR. W. GILL WYLIE. He said, in brief: Anemia is always due either to blood loss or perversion of cystogenic tissue. Women are more liable to anemic conditions than men because their periodical blood losses in menstruation and childbearing keep their blood in a state of unstable equilibrium in which other causes easily affect it. Besides these natural reasons for the greater frequency of anemia in women there are others. Up to ten years of age boys and girls are brought up in practically the same way; but after this the girl gets much less of light, air, and exercise than the boy. Besides, she is, as a rule, compelled to work harder mentally and with less relief from strain during the years from twelve to eighteen than at any time in life. Just when she should have a surplus of energy to devote to the great developmental changes that are taking place in her physical organism she is employed almost continuously in the work of developing her mental faculties. Exercise is apt to be neglected, diet to be the result of caprice, while serious calls are being made by the physical and intellectual spheres.

This manner of life at an important formative period leaves the hematopoietic system weaker and less resistant and invites anemic conditions, as it also furnishes a basis on which develop various other functional and even organic troubles such as undeveloped uteri, chronic metritis, uterine fungosities, metrorrhagia, small and undeveloped cervices, which are especially liable to tears that later increase the liability to uterine subinvolution, besides a whole series of nervous troubles. In chlorotic conditions what might otherwise seem no more than ordinary menstruation may require curettage, and fungosities will often be found, for normal menstruation in chlorosis is really abnormal.

Particular anemic conditions are often due to some latent hemorrhagic lesion. Ulcer of the stomach runs a latent course with special frequency. Welch and other

pathologists have shown that gastric ulcers or healed remains of them are found very often post-mortem when the history of the patient shows no indication of the presence of an ulcer. In these cases a diet of milk for a few days, with careful watching of the stools, will enable one to decide whether there is any concealed hemorrhage or not. This gives us the most reliable means of deciding as to the presence of a duodenal ulcer which so often runs a latent course.

Anemia, however, may be the result of a chronic colitis, or of an appendicitis, without peritonitis. In a recent case on operation there proved to be a combination of a gall-stone and a patulous appendix, especially liable to irritation. There are some very interesting cases of anemia connected with chronic appendical conditions, yet without perforation or purulent conditions. In nine such cases a prominent symptom always was nausea.

Gynecological conditions often cause anemia. The various forms of uterine hemorrhage produce it, and concealed hemorrhage may cause an insidious drain. Bleeding may take place into cysts, or into adhesions, or in old fibromata. Vascular growths may develop from old fibromata, cause intense anemia, and even the appearance of the cachexia of malignant disease. Even after examination they are sometimes thought to be cancer and declared to be inoperable. When operation is attempted, however, it is wonderful how well such patients stand large losses of blood during the operation. The blood-making organs have, as it were, grown accustomed to having serious calls made on their functions, and they are prepared to respond. Though anemic looking before operation such patients react well even after a bloody operation. The anemic state should not be thought a contraindication to operation. Plenty of liquid should be given during the days of preparation for the operation and subcutaneous injections of normal salt solution just after it will soon restore the circulatory equilibrium disturbed by blood losses. If liquid is allowed to be taken less than two hours before operation it may give rise to troublesome bleeding from small vessels that is very hard to control during the operation. Patients need not be denied the fluid they crave more than this, otherwise post-operative thirst will be excessive and prove a source of restlessness.

The second paper of the evening, entitled

THE PRESENT STATUS OF OUR KNOWLEDGE OF CHLOROSIS

was read by DR. THOMAS A. SOUTHWORTH (see page 485).

DR. MANGES opened the discussion. He said that the opinions that attribute considerable weight in the etiology of chlorosis to gastro-intestinal disturbance are well founded. In chlorosis there is often present not only hyperacidity but hyperchlorhydria and there is also increased motility. Six or seven years ago Minot thought he had discovered the real reason for chlorosis in gastroptosis, downward displacement of the stomach, which by interference with the blood and nerve-supply to the spleen disturbed the hematopoietic functions. He found in nearly every case that the lower border of the stomach in

chlorotic cases extended below the umbilicus, but, as Leo showed, Minot used large quantities of carbonic-acid gas in his demonstrations, and what he really proved was not a gastrophtosis in every case, but a supradistensibility of the stomach.

There is no doubt, however, of the frequency of gastro-intestinal disturbances, but this should not keep us from seeing that our patients get enough to eat. In fact, it is always advisable to force the feeding. It can do no harm unless when the supposedly chlorotic condition is really a secondary anemia and due to a latent gastric ulcer with frequent hemorrhages therefrom. Such ulcers are much more frequent than is thought, but with careful and frequent examinations of the patient and her stools they will be surely detected.

Hoffman criticizes Jaccond and other French authorities for citing cases of supposed chlorosis with recurring fever sometimes as high as 103° F. It is probable that in these cases what was really present was a latent tuberculosis. Clifford Allbutt, in his "System of Medicine," in referring to the treatment of chlorosis paraphrases Osler's expression with regard to the use of quinin in malaria: that no case of chlorosis will fail to respond to iron properly administered. There are exceptions, however, to every rule, and certain cases of chlorosis are extremely obstinate even to long-continued iron treatment. It is in these cases that certain auxiliary methods of treatment are useful. Oliver has shown that during rest there is twenty-five per cent. more blood circulation through the muscles; hence, the value of rest in chlorosis when the oxygenation is limited by the lessened oxygen-carrying power of the blood.

DR. EWING said that the point of special interest brought out by Dr. Southworth's paper was that it is not easy to diagnose chlorosis from secondary anemia. There is an essential difference between the two inasmuch as in true chlorosis there is a disproportionate decrease of the hemoglobin of the blood, while in secondary anemia corpuscles and hemoglobin are reduced more or less equally.

As to the cause of chlorosis, its much more frequent occurrence in women shows that it is related to certain sexual factors. The practically constant presence of gastro-intestinal trouble shows that this has an etiologic relation to the affection. Further work along these lines will reveal the exact causal elements and so enable us to take chlorosis out of the list of primary or essential anemias.

DR. WEBER said that chlorosis in his experience is at least as common among the lower classes as the upper. When the condition cannot be cured after long and faithful treatment then it will usually be found not to be chlorosis. It will prove to be a secondary anemia or latent tuberculosis. We do not know the cause of chlorosis but we can cure it. The treatment with iron must not be continued merely for one month to six weeks, but must be kept up for three or four months without interruption. Bland's pills are as good as any other form of iron provided they are not too old. If, when they are crushed (and it is in this way they should always be given), they are green within they are still active but if red

they are inert. When they cause gastric disturbance they should not be given on an empty stomach because of the caustic effect of the potash they contain. Dr. Wylie's suggestion as to the careful frequent examination of the stools in chronic anemia or chlorosis is very important as it will often disclose the reason why a case obstinately refuses to react to treatment.

DR. SAVAGE said that the President of the Academy had gotten at the root of the matter in asking a gynecologist to open the discussion on chlorosis. The disease is practically always due to some gynecologic factor. An infantile uterus and the menstrual disorders connected with abnormally developed internal genital organs are usually at fault and often require active treatment.

DR. WYLIE, in closing the discussion, said that the hygienic conditions in the upper classes have changed greatly during the last twenty-five years, and that now we see less chlorosis among them than used to exist. He could not see how infantile uterus or undeveloped sexual organs can have anything to do with chlorosis, and as for treatment of such patients by the use of tampons, etc., he would think it justifiable only under very serious conditions. As to sexual examinations of such subjects, he considers it scarcely justifiable except under ether.

DR. SOUTHWORTH said that of course he considers chlorosis distinct from secondary anemia though it is hard in certain cases to differentiate it. It is probable that chlorosis is due rather to the prevention of the formation of hemoglobin, and its consequent diminution because of its being used up in metabolic changes rather than to any active destruction of the iron compound going on in the system. Dr. Weber's expression, that the supposed cases of chlorosis that do not yield to treatment will be found not to be chlorosis, he welcomed most cordially. At times true chlorosis requires judicious persistent treatment and yields not quite as rapidly as is hoped, but the disease is, as a rule, very amenable to proper treatment.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-fifth Annual Meeting, Held at Chicago, October 3, 4, 5, and 6, 1899.

THE Association met in Handel Hall, and was called to order by DR. HAROLD N. MOYER of Chicago, Chairman of the Committee of Arrangements. REV. H. W. THOMAS invoked divine blessing. Dr. Moyer introduced JUDGE CAVANAUGH of the Superior Court, who, in the absence of Mayor Harrison, delivered an eloquent address on behalf of the city and State. DR. FRANK BILLINGS of Chicago followed with an address of welcome on behalf of the profession of Chicago, after which the president, DR. DUNCAN EVE of Nashville took the chair. The report of the secretary, DR. HENRY E. TULEY of Louisville, was read. It stated among other things that but few deaths had occurred during the year. There are 300 members on the roll at present. Provision has been made for the issuance of a volume of *Transactions* this year. The treasurer's report by DR. DUDLEY S. REY-

NOLDS of Louisville was also read, which showed a balance in the treasury of \$133.96. Both reports were accepted and referred for publication. The committee on credentials, DR. C. S. STANTON, chairman, reported 41 new members.

At this junction, the first vice-president, DR. A. J. OCHSNER of Chicago took the chair, and DR. EVE delivered his presidential address. He took for his subject

MALPRACTICE AND THE DAMAGE SUIT.

Strange as it may appear, he said, no systematic work gives a formal or technical definition of malpractice. He therefore had to quote from a well-known jurist on this subject: "Malpractice is the unskillful or negligent treatment of a patient by a physician or surgeon, or some one undertaking to act as such, resulting in injury to the patient." To constitute malpractice, unskillfulness and injury, or negligence and injury, to the patient must concur. The inquiry is natural, "What is meant by unskillfulness?" It is the want or absence of learning and experience in medical science. How much skill is required? The answer is "ordinary skill." What is ordinary skill? Such skill as is usually possessed by the profession at the time and place, when and where, the patient is treated.

Finally, the speaker urged in a forcible manner that the profession stand as a unit by the innocent victim when unjustly attacked, as if it were a matter of personal concern to each, remembering that when one member suffers the reflex action is felt by all.

SURGICAL SECTION.

DR. JACOB FRANK of Chicago read a paper on

VESICO-RECTAL ANASTOMOSIS.

Experiments have been conducted by him on the implantation of the ureters into the rectum, which justify the conclusion that in every instance there is an ascending infection of the ureters which terminates in the kidney. Since this is an established fact, as verified by both microscopic and macroscopic study of dogs, he has every reason to believe that no better result could be attained in the human being, and from this circumstance alone the implantation of one or both ureters can never become popular. Various operators have devised different methods for the relief of exstrophy of the bladder, but Maydl's is the safest and best because, according to his technic, the ureteral openings are not anatomically interfered with, hence there is a fortification against ascending infection.

The operation consists of anastomosing the bladder to the rectum with the author's decalcified-bone coupler. The technic is as follows: In a male dog the incision is made in the groin, and in a bitch in the median line. Generally, the bladder is found distended, and is emptied by squeezing it gently with the hand, when the urine escapes through the natural channel. The rectum is next picked up and freed of its contents, as in any intestinal operation. The bladder and rectum are then brought forward and placed in position for anastomosis. Two or three interrupted Lembert sutures are now taken about half an inch below the lower ends of the incisions de-

terminated upon in the bladder and rectum, care being exercised in selecting them that the coupler, when it is inserted, will not encroach upon the ureteral openings. A longitudinal incision is then made in the bladder large enough for the coupler selected, and a puckering-string applied over and over the cut margin. The rectum is next opened in its long axis, and a puckering-string similarly applied. The suture should be inserted so that the free ends lie uppermost, thus facilitating easy tying. The operator now slips the coupler into the bladder opening, at the same time gently spreading the collars apart, while an assistant makes one knot and draws down on the puckering-string until the rubber tubing is felt; another knot is made and the ligature cut off short. The other half of the coupler is then slipped into the rectal opening and likewise tied and cut off. Several interrupted Lambert sutures are inserted around the borders to make the work more secure. The operation is simple, and can be accomplished in ten or fifteen minutes.

The speaker said that he has not had an opportunity of trying this new method on the human being yet, although it was tried on the cadaver. Of the 15 dogs operated upon, 10 recovered and 5 died. In the first two experiments the technic was imperfect, and a great deal of unnecessary work was done, which undoubtedly contributed largely to the failures. As a rule, the dogs are quite sick for the first few days, and show signs of pain, with rise of temperature. For a week after the operation urine and feces are voided oftener than after this period. Dogs raise the leg as though in the act of urinating, without accomplishing anything, and finally squat down and micturate from the rectum. The animals that have been kept accustom themselves to their condition and urinate periodically. The feces are passed in a liquid form, being softened by the urine. Two of the dogs which were operated on about six months ago are alive and in good health.

DR. H. O. WALKER of Detroit commended the paper for its originality. His experience with ureteral implantation has been limited, but having read the literature on the subject, he was impressed with the practicability of the operation described by the essayist, believing that it will do away with the implantation of the ureter into the rectum.

DR. THOMAS CHARLES MARTIN of Cleveland said the essayist was less enthusiastic than he was justified in being, for in a human subject who has exstrophy of the bladder this new operation could be performed without opening the peritoneal cavity.

DR. JOHN L. JELKS of Memphis, Tenn., then read a paper on

SOME COMPLICATIONS MET WITH BEFORE AND AFTER OPERATIONS FOR HEMORRHOIDS, THEIR CAUSES, PREVENTION, AND TREATMENT.

He reported several instructive cases. He said a surgeon sometimes in dealing with a simple rectal trouble encounters serious disease of the uterus and its adnexa. Without the entire relief of both or all conditions the patient will probably feel that little benefit had been given her. Syphilis and gonorrhea may be and often are

causes of rectal troubles. When a patient with hemorrhoids has gonorrhreal infection the latter becomes a serious complication.

DR. JOSEPH M. MATHEWS of Louisville said that no intelligent surgeon to-day uses carbolic acid for the treatment of internal hemorrhoids. In operating the clamp and cautery or the ligature may be used. The former method of operating is not so liable to be followed by the complications referred to by the essayist. Personally, he would operate on hemorrhoids regardless of complications, such as pregnancy, a displaced uterus, etc.

DR. GEORGE F. KEIPER of Lafayette, Ind., then read a paper on

THE MASTOID OPERATION

and reported several cases. He directed attention to the possible injury to the facial nerve in operative work either upon the mastoid or the middle ear. He believes that surgeons have been reckless in this regard and the patients have suffered in consequence. If the facial nerve be wounded or cut through all authorities are agreed that it cannot be regenerated in less time than from twelve months to two years, if at all. Hence the importance of taking due notice of its presence in operative work.

DR. GUSTAVUS M. BLECH of Chicago contributed a paper on

MODERN SURGICAL TREATMENT OF HEMORRHOIDS.

Since a hemorrhoidal tumor is but the result of an inflammatory process, he believes that germ infection must be the main etiologic factor. A *locus minoris resistentia* is produced by certain mechanical influences which, however, in the light of modern pathology can be considered only as predisposing causes. In this class belong straining during defecation, obstruction of the portal vessels from liver disease and abdominal tumors, pressure produced by the gravid uterus, pressure on the veins from impacted feces, etc. That germs are primary factors in the production of hemorrhoids the author is satisfied from observations in his practice.

As to the treatment, he said that in the earlier years of his professional career he was in the habit of removing internal and external hemorrhoids with the ecraseur. His objection at present to this method is that the wire of the instrument is very apt to break, leaving the operator in a dilemma, especially when the operation is half completed. Secondly, the cut surface is not accurate, nor can it be regulated. No matter how close the wires are kept down to the base of the pile the ecraseur cuts as it pleases, and not as the surgeon desires it. Thirdly, it frequently happens that after the operation is finished complete separation of the tissues does not take place, and if the screw is tightened some tissue is drawn into the stem, and if continued, the stem is apt to bore itself into the rectal wall. He does not favor the Whitehead operation. His method of operating for internal hemorrhoids differs but little from that of most surgeons. If he has to remove but one tumor of large size he simply throws around its base a temporary ligature, cuts off the entire tumor, and then sews the wound with interrupted sutures in the direction of the axis of the rectum.

BETA-EUCAIN AS AN ANESTHETIC IN EYE, NOSE, AND THROAT WORK.

DR. WILLIAM H. POOLE of Detroit read this paper, which will appear in next week's issue of the MEDICAL NEWS.

INTOLERANT ULCERATION OF THE RECTUM.

This paper was read by DR. STERLING B. TAYLOR of Columbus, Ohio. He reviewed the surgical anatomy of the anal portion of the rectum at considerable length. In the early stages of intolerant ulceration physicians are inclined to discredit the presence of any severe pain, inasmuch as in its incipiency it is merely a rent or tear in the mucous membrane. This is prevented from healing by the lodgment of small particles of fecal matter, which produce irritation and inflammation, and eventually painful ulceration. The extreme pain makes its appearance with the unhealthy granulations. Pain is not the only disagreeable accompaniment, as there is often annoying and sometimes dangerous hemorrhage, especially if the ulcer be located high. The usual seat of the ulcer is at the posterior commissure, and it is here that it is most painful. The anterior commissure is the next favorite seat of the ulcer.

As regards treatment he recommended the method practised by Martin, which he considers simple and effective. General anesthesia is not required, but simply infiltration anesthesia, which is practised by the injection of a few drops of a $\frac{1}{10}$ of 1 per cent. solution of eucain or cocain around the ulcer. A slight incision is then made through the membrane and integument down to, but not through, the sphincter. He then packs with a small piece of iodoform gauze. The bowels should be kept open with some laxative, preferably a mineral water. Apenta water is both pleasant and efficacious. Several cases were reported in which the Martin method of treatment was resorted to. The essayist held that rectal ulcers can be excised under eucain anesthesia without pain.

The address in medicine was delivered by DR. J. A. WITHERSPOON of Nashville, Tenn. He selected for his subject

TYPHOID FEVER.

In this day of progressive medicine, when the whole profession is anxious to elucidate the etiology of disease and its prevention, no field has been so thoroughly gone over, and in none have the trials or hardships been so difficult as in the study of the plain, old-fashioned disease —typhoid fever. While the laboratories with their facilities for studying pathogenic micro-organisms have made wonderful progress, the speaker said that he belongs to that school which believes that while the diagnosis should be made with the assistance of the bacteriologist, more importance should be attached to making it clinically at the bedside. In other words, he is absolutely opposed to doing away with the good, old-fashioned methods of examining the patient and relegating the system of our forefathers to the rear, and making diagnoses purely in the laboratory. Typhoid fever is a specific toxemia, it being produced by the typhotoxins elaborated in the system from the bacillus of Eberth. The speaker then

dwell at length on the differential diagnosis of typhoid fever and what he calls "toxo-enteric fever."

In speaking of the treatment of these diseases he stated that the man has never lived who could formulate prescription number one and formula number two, etc., have them made in Detroit or any other city, and tell him how to treat a case of typhoid fever in the active stage of the disease. He is unalterably opposed to any man putting up prescriptions of this type for him.

OBSTRUCTIVE GROWTHS OF THE PYLORUS.

This was the title of a paper by DR. J. E. ALLABEN of Rockford, Ill. The author reported a successful and interesting case of pyloresection, after which he drew the following deductions:

1. Cancer is one of the most potent factors in the causation of death, with a tendency to constantly increase in frequency of occurrence.

2. Gastric cancer occurs in about one-fifth of all primary cases.

3. In gastric cancer the pyloric region is affected in sixty per cent. of the cases.

4. The treatment of gastric cancer directed toward a permanent cure is, in the present state of our knowledge, limited wholly to surgical methods.

5. As early total extirpation of malignant growths with the hope of permanent cure is the goal toward which we are constantly striving, and as these growths in gastric cancer occur at the pyloric region in sixty per cent. of the cases, it would seem to follow as a natural conclusion that pyloresection would be the treatment most frequently prescribed for the cure of this malady.

6. Inasmuch as early diagnosis is the greatest requisite for directing proper radical treatment, the internalist and the surgeon should turn their best efforts in this direction.

7. If the operation of pyloresection were performed before obstructive symptoms manifest themselves, and before the occurrence of metastasis, the immediate results would be as favorable as in any other abdominal work, and the remote results as good as in extirpation of carcinoma of the breast.

DR. J. L. BOOGHER of St. Louis, Mo., then read a paper, in which he dwelt principally upon the value of prostatic examination in the treatment of associated affections.

WHAT BECOMES OF THE MEDICINALLY TREATED CASES OF APPENDICITIS?

This paper was read by DR. LEWIS SCHOOLER of Des Moines, Iowa. The author predicts that the facts, as disclosed by greater observation and the increasing experience of medical practitioners, will inevitably show that the present position occupied by them is untenable. Patients who are treated by means of medicine only either die under such treatment or later are cured by operation. To the above there should be noted a single exception, namely, those cases in which cure is spontaneous. This occurs by rupture into the bowel, vagina, bladder, or externally. Instances of this method of cure are familiar to all. It is singular, therefore, that in view of

such familiar occurrences medical men do not take the hint that Nature is so persistently urging upon them and comprehend more clearly the fact that removal of the offending cause is the only rational procedure. It is the only one that is approved by Nature, pathology, observation, and science.

DR. H. C. WYMAN of Detroit, Mich., followed with a paper in which he dwelt on the surgical features of appendicitis.

INTESTINAL OBSTRUCTION FROM BILIARY CALCULI.

DR. J. WESLEY BOVÉE of Washington, D. C., read a paper with this title. He stated that intestinal obstruction from biliary calculi is not very common. Brinton found in 500 cases of intestinal obstruction but 24 cases due to gall-stones, and Leichtenstern found but 41 in 1544 cases of bowel occlusion. In the Manchester Royal Infirmary but 1 case in 50,000 patients treated for all troubles was found. As it is a condition practically limited to late life its rarity is to be expected. The author then dwelt upon the varieties of obstruction, the location, causes, symptoms, and prognosis.

In considering the treatment he stated that Hippocrates and later others recommended the injection of air into the bowel. Tobacco smoke and infusion and different gases have been thus employed. Purgatives are positively harmful. Morphin and belladonna are the two best drugs in this condition. Of course the use of electricity has not been omitted. With medical treatment nearly half the patients recover, but is that a sufficiently large proportion? In 1662 Barbette recommended laparotomy for acute intestinal obstruction, and as abdominal surgery is now practised its use in acute obstruction of the bowel from biliary calculi should give brilliant results. Medicinal treatment may be employed for a short time, and failing, should be superseded by laparotomy, with a careful exploration of the abdominal and pelvic contents. The seat of obstruction being found, the condition of the patient and the degree of mobility of the stone in the bowel will guide the operator in the subsequent steps. The plan of Tait, of passing a strong needle obliquely through the bowel wall into the stone to break it up, may first be tried, the puncture wound being closed by a Lambert stitch. This failing, the stone should if possible be pushed higher in the bowel and a longitudinal enterotomy performed with extraction of the stone. Gangrenous bowel, perforation, or localized peritonitis, with or without pus, should be treated secundum artem. It is always well to look for a second obstruction, as this has caused death in some cases. The deaths following laparotomy for this condition are nearly always from shock or sepsis, a strong argument for early operation. It would not seem improbable that early laparotomy in these cases should have a mortality of less than 10 per cent.

The address in surgery was delivered by DR. LEWIS S. MCMURTRY of Louisville, Ky. He selected for his subject

THE ESSENTIAL REQUIREMENTS OF A MODERN OPERATIVE PROCEDURE.

During the past fifteen years the province of surgery and

its scope have been greatly enlarged. Many diseases and injuries that were formerly treated on the expectant plan and by palliative measures, with little hope of permanent relief or cure, are now cured by judicious surgical intervention. Notwithstanding the increase in hospital facilities in cities and towns many important surgical cases must receive immediate attention at the hands of the family physician from the very nature and urgency of the disease or accident. Such cases are classified as emergencies, and they include many major as well as minor injuries. When a major or minor surgical operation is to be performed certain fundamental principles of asepsis should be observed, and yet it is comparatively exceptional in private homes for minor surgical procedures to be carried out without the presence of pus following the operation.

The speaker said that there are three important steps to be observed: The first is the administration of the anesthetic. This requires skill, which can only be acquired by practice; hence, medical students should receive practical instruction in the administration of anesthetics. The second element of a surgical procedure consists in the control of hemorrhage. In the early days of abdominal surgery it was common to disregard the question of hemorrhage. All those present would remember the days when the drainage-tube was more frequently used than it is now, and that within forty-eight hours after an operation it was customary to pump out considerable quantities of blood as the result of oozing from small vessels that were ignored during the operation. Nowadays, when more attention is given to hemostasis, hemorrhage is lessened on account of attention being directed to the small vessels. A third indication, and one to which the speaker devoted the remainder of his remarks, was the important one of asepsis.

DR. JOHN D. KYLE of Indianapolis then read a paper in which he discussed the treatment of nasal stenosis due to deflections of the nasal septum, with or without thickening of the convex side. In his opinion the most frequent cause of deflection is trauma. Ulceration of the septum or inflammation within it, as noted in a child suffering with congenital syphilis, and hypertrophy of the turbinates are causative factors. A strumous or uric-acid diathesis may predispose to perichondritis and subsequent deflection.

DR. EMORY LANPHEAR of St. Louis, Mo., contributed a paper in which he dwelt on the removal of the cervical sympathetic for epilepsy, exophthalmic goiter, and glaucoma. He mentioned the work of Jonnesco and other surgeons along this line saying that this field of surgery is worthy of further study and investigation.

SURGERY OF THE TURBINATED BONES.

The author of this paper was DR. J. A. STUCKY of Lexington, Ky. He did not discuss operative procedures on the turbinated bodies, nor on any of the soft tissues covering the bone, but rather the bone itself. While it is true that the tissues covering the bone are far more frequently found in a pathological condition, and require surgical treatment, it is also true that the bone itself in many in-

stances is at fault. When this is the case the mucous membrane and turbinated bodies may be entirely obliterated by chemical and electric cautery, or scissors, forceps and snare, and the latter condition of the patient be worse than the former, because of the remaining cicatricial tissue and unnatural dryness of the parts. He then called attention to what he considers the best method of removing a part or whole of the bone. The first and most important desideratum in all intranasal operations is to remove only just as much tissue as is absolutely necessary. The crushing or punch forceps, spoke-shave, and snare should only be used inexceptional cases. In removing a part or whole of the middle turbinate, correctly shaped scissors is the only instrument needed. For this purpose he has found none equal to those devised by Dr. C. R. Holmes of Cincinnati, one for each turbinate, right and left. For turbinectomy or turbinotomy of the lower bone, the narrow-bladed scalpel, saw and long straight scissors are needed. An incision through the soft tissues is made along the edge of the bone; this is peeled back with the back of a scalpel and the bone exposed. Should this be too firm to cut with the scissors, a narrow, thin saw is used. In cases where the knife, saw, and scissors cannot be used to complete the operation on account of the size, depth, and conformation of the nasal chambers, the snare is used to complete the removal of the posterior portion. Little or no dressing is needed after the operation, except when the lower turbinate has been entirely removed; then strips of gauze placed smoothly over the wound are allowed to remain twenty-four or thirty-six hours, then carefully removed, after thoroughly softening with fifty per cent. hydrogen dioxid. The subsequent treatment consists of keeping the parts clean until union is complete.

MAMMOTH OVARIAN TUMORS: REPORT OF A CYST WEIGHING 245 POUNDS.

This was the title of a paper read by DR. JAMES B. BULLITT of Louisville. Only growths weighing 100 pounds or more were considered as mammoth tumors. A search through literature has developed reports of twenty-three such cases. Brief summaries of these cases were presented. The largest of these tumors weighed 202 pounds. The speaker added a twenty-fourth case by reporting in detail a case in which operation was performed by Dr. A. M. Cartledge of Louisville in May, 1897, the tumor-sac and contents together weighing 245 pounds. A great many adhesions were encountered, and the operation was prolonged. The woman rallied from the shock and was in good condition at the end of five days, when obstruction of the bowel occurred and she died on the seventh day.

OBSTIPATION AND ITS RADICAL TREATMENT.

DR. THOMAS CHARLES MARTIN of Cleveland, Ohio, read a paper with this title. He said that the rectal valve is an individual anatomic organ in itself, and must now be reckoned with in studying the operations of the integral mechanism of defecation.

When the muscular elements are relaxed and the gut is either greatly dilated or else is even in lesser measure

distended, the valve is passively supported by its fibrous band across the channel to resist the hurried or uncontrollable descent of the feces. The presence of the band of fibrous tissue under the free margin of the valve provides a *control* to receive or retain a bolus, or, it may be said, the several valves receive a series of boluses till a sufficient pressure is made to stimulate the complex involuntary mechanism of defecation to further propulsion of the feces, or to a reversed peristalsis. The presence of the feces or the involuntary movements incident to their presence, signals the consciousness to cooperative voluntary expulsive effort, or gives warning of the necessity of voluntary resistance. The valvular arrangement of the rectum provides for the minimum expenditure of energy on the part of the voluntary forces for the reason that the gut's contents are collected on the surface of the unyielding sacrum and steadied there to receive the pressure of the really expulsive voluntary effort. Such an arrangement of the feces further facilitates defecation for the reason that the entire contents of the rectum are not rushed upon the anus at once. If it be the function of the normal rectal valve to sufficiently retard the descent of the feces, it is obviously true that it may be the especial property of the valve, in certain other normal conditions to maliciously obstruct the descent of the feces. The patient is the subject of more or less chronic irregularity of defecation. On some days he makes frequent, partially successful attempts to evacuate the rectum, but may experience an unrequited desire for stool. He acquires the reprehensible physic habit. In time the periods of obstipation are interrupted by diarrhea. There is commonly an ineffectual straining at stool except in the case of fluid feces.

SURGICAL TOLERANCE AND RESULTS.

This paper was read by DR. F. F. BRYAN of Georgetown, Ky. He concludes that tolerance is due (1) to individuality of the subject; (2) to the vital resistance furnished by organs capable of performing their function; (3) by the immediate necessity for the part by the body as a whole, for the aid of the part operated upon, in carrying on life; (4) preventing or limiting shock; (5) limiting hemorrhage; (6) preventing and limiting sepsis and removing the same. Results will depend on (a) refusing operation to a hopeless class of patients; (b) painstaking care to make the procedure thorough; (c) demanding sufficient time for thorough convalescence and adaptation of the patient to the changes that have been wrought.

The following officers were elected for the ensuing year: President, Harold N. Moyer, Chicago; vice-presidents, A. H. Cordier, Kansas City, Mo., and S. P. Collins, Hot Springs, Ark.; secretary, Henry E. Tuley, Louisville, Ky.; treasurer, Dudley S. Reynolds, Louisville, Ky. Place of next meeting, Asheville, North Carolina; time, October 4, 1900.

Another Case of Fractured Spine at Roosevelt Hospital.—A man presenting similar conditions to those of Mr. Duryea has been brought into the hospital. He awaits operation.